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EDITORIAL CONTRIBUTIONS

The Society was organized essentially to collect, disseminate and preserve important material pertaining to the history of the State. To effect this end, contributions of manuscripts are solicited, such as old diaries, journals, letters and other writings of the pioneers; also original manuscripts by present-day writers on any phase of early Utah history. Treasured papers or manuscripts may be printed in faithful detail in the Quarterly, without harm to them, and without permanently removing them from their possessors. Contributions for the consideration of the Editorial Board, and correspondence relating thereto, should be addressed to the Secretary, Utah State Historical Society, State Capitol, Salt Lake City 1, Utah.

The Society Assumes No Responsibility for Statements Made by Contributors to This Magazine.
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COLORADO DAYS

Oh, boys, you remember
The old Colorado,
The **NELLIE** and the **DEAN**
And the **CANONITA**, too;
The portages and "let-downs,"
The "blind-box" and the "photos,"
All flash through your minds
As do things of the past.

There's Andy and his kettles,
And Bish and his "threeodlite,"
With Beaman pass before us
In our vision of old times;
The Major and Professor,
And Deacon Jones, no lesser,
And hearty "Uncle" Steward,
The exhorter of our band.

There was "Little Breeches" also,
Who disliked to be assistant,
And departed from us sadly
When we anchored in Brown's Park!

But he bade adieu to Clement,
Who wore patent "Daisy Cutters"
That stamped a Number Nine
All 'round us in the sand.

And Jack, our jolly songster,
The warbler of the "Aigles,"
Who sang us many "Zephyrs"
To cheer the lonely camp.

Still another must be mentioned.
He shall always be "Yours Truly,"
And the Zephyrs from the Caños
He dedicates to you.

Then farewell forever
To the wild Colorado;
Its rapids and its rocks
Will trouble us no more;
But we'll be free and merry,
Amidst old forms and faces,
While the great foaming river
Dashes on to the sea.

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Song written by Frederick S. Dellenbaugh in 1872, which he found still sung in southern Utah in 1929. As here reproduced, it is an adaptation of a broadside 31.7 x 16 cm., the original text being in single column, printed in 1930 by Mrs. L. D. Whittemore, grand-niece of Major Powell. See pp. 9, 499.
INTRODUCTION

With this volume of its Quarterly, the Utah State Historical Society completes one of its most ambitious and most important projects, the publication of the original journals of the Powell expeditions of 1869-72.

The introduction to the last volume of the Quarterly, in which the journals of the Powell Colorado River Exploring Expedition of 1869 were published, devoted attention to explorations of the Green and Colorado rivers antedating those of Powell. The present introduction, dealing with the second Powell expedition of 1871-72, appropriately looks to the larger significance and fruits of this work of exploration and discovery, for the second expedition was what the first was not, a carefully constituted and admirably equipped scientific organization.

Although our lives are touched today at every point by our cultural inheritance from the great labors of Major J. W. Powell and his contemporaries, King, Wheeler, and Hayden, it is one of the curious paradoxes of our history that the early explorations of Utah and the West, having limited objectives and being largely of reconnaissance character, are better known than the great surveys of the seventies. Major Powell and his contemporaries did their work so well that we, the beneficiaries, have become not merely unappreciative but even incurious concerning it. It is thus a peculiarly valuable service that the Utah State Historical Society does in assembling and publishing the original records of one of the greatest of the early surveys, focusing attention upon it and making the records themselves available for study.

Undoubtedly the genesis of all these surveys was Clarence King’s Fortieth Parallel Survey, which in 1867 embarked upon a hundred-mile-wide geological survey covering the entire length of the new Pacific Railroad. King’s corps of geologists reached Utah in the summer of 1869, and in this and succeeding years, notably in 1871, achieved the first systematic mapping of north-
ern Utah. Although Clarence King’s name is borne by Utah’s loftiest peak, a summit in the Uinta Mountains rising 13,498 feet above sea level, his survey of 1867-74 has been almost forgotten, and few ever resort to the back shelves of the libraries to turn the pages of his massive report. The original field notes and letterbooks of his survey are, however, preserved in the government archives, and it is to be hoped that work done in these records by future historians of Utah and the West will do for the Fortieth Parallel Survey what the Utah State Historical Society has now done for the Powell Survey.

The King Survey was carried out under War Department auspices. By contrast, F. V. Hayden’s Geological and Geographical Survey of the Territories, which also first took the field in 1867, was authorized by the Interior Department. The Hayden Survey concerned itself more particularly with Utah’s neighboring states on the north and east, but no systematic study of the exploration and mapping of Utah will be complete until the documents relating to Hayden’s Survey have been annotated in the light of modern knowledge, and published.

Even more imperative than a study of the King and Hayden surveys is a comprehensive reexamination of the labors of Lieutenant George M. Wheeler’s Geographical Survey West of the One Hundredth Meridian. This was also a War Department enterprise, which had in the beginning the direct military purpose of providing information for operations in the Indian country of Arizona, Nevada, and southern Utah. The work so begun in 1869 was expanded in 1871 to embrace a larger field of labor, summarized by Wheeler himself as “to gather as much information as possible relating to the physical features of the country; the number, habits, and disposition of the Indians; the selection of sites for military operations or occupation; facilities for making rail or common roads; to make such examinations as were justifiable from their importance of the mineral resources of the region; and to note the climate, geological formation, areas valuable for agricultural and grazing purposes, and the relative proportions of woodland, water, and other qualities”—all this in addition to the gaining of correct topographical knowledge and the preparation of accurate maps of the regions investigated. Throughout the seventies, Wheeler’s parties crisscrossed southern and western Utah, at times intersecting the paths of Powell’s men. A long series of preliminary reports, eight volumes of final reports, and a valuable atlas were published by Wheeler, but it is past time that the original journals and field notes of his men be brought forth in the dress of modern scholarship, and such a labor suggests itself as the next large investigation to be carried on in the original documents relating to the discovery and formal mapping of Utah.
The three major surveys above named, together with Powell's great survey of the Colorado River canyons and the adjacent high plateaus, made possible the organization of the U. S. Geological Survey. In 1875 the Hayden and Powell surveys were reorganized under the Interior Department as the U. S. Geological and Geographical Survey of the Territories, and in 1877 the resulting organization was renamed the Survey of the Rocky Mountain Region. Finally, in 1879, the geological and geographical work of the government, apart from that of the Coast and Geodetic Survey, was consolidated by Congress as the U. S. Geological Survey. Clarence King served as director long enough to organize the new bureau, and then was succeeded by Major Powell, who meanwhile had set up the Bureau of American Ethnology in the Smithsonian Institution. The Major remained head of the Geological Survey until 1894 and of the Bureau of American Ethnology until his death in 1902. His influence on American life and institutions, it may be remarked in passing, was not confined to these two bureaus; the U. S. Bureau of Mines and the Bureau of Reclamation function today in pursuance of ideas on which Powell's vigorous mind had a powerful formative influence. Similarly, ideas of land use, utilization of natural resources, and in general the technological relationship of man to his environment, which have notably influenced government policy and the functioning of such Federal agencies as the Department of Agriculture and the Department of Interior, were markedly shaped by the thinking and public discussions initiated by Powell and his contemporaries.

The first Powell expedition of 1869, the springboard which catapulted the Major into all these great developments, was treated comprehensively in volume XV of this Quarterly, when the journals of George Y. Bradley, John C. Sumner, and the Major himself were printed with many collateral documents and biographical sketches. The present volume is concerned with the second expedition of 1871-72, which has been so strangely neglected in the record of the Powell explorations.

The Second Powell Colorado River Expedition of 1871-72 consisted of 11 men at the time it launched its three boats into the swift waters of the Green at Green River Station, Wyoming, on May 22, 1871. One member of the party, Frank Richardson, left the expedition in Browns Hole soon after starting, and he, like Andy Hattan, the cook, is not known to have kept a journal. All the other members of the expedition did keep journals, and it is the good fortune of this Society that it has been enabled to publish the majority of these, so that the second Powell expedition is now more completely documented than any other exploring enterprise of which we have record.
The journals of Almon Harris Thompson, published in volume VII of this Quarterly, of Francis Marion Bishop, published in volume XV. and of Stephen Vandiver Jones, John F. Steward, and Walter Clement Powell, all published in the present volume, account for five of the known diaries. The spasmodic journal of Major Powell himself, preserved in the Bureau of American Ethnology, is also here printed in part, in the form of footnotes to the other diaries. Frederick S. Dellenbaugh’s original diary, deposited in the New York Public Library, remains unpublished but was the basis of his book, *A Canyon Voyage* (New York, 1908), so that its substance is well known and readily available. Jack Hillers also kept a journal, one somewhat belatedly begun but written up from the beginning; this, however, has not yet been located. The whereabouts of E. O. Beaman’s journal has also to be established, but Beaman used this diary as the basis of a narrative published in *Appleton’s Journal* during April and May, 1874, a record which has been drawn upon in annotating the diaries printed in the present Quarterly. Seen from so many diverse points of view, the second Powell expedition, both in its human components and in its scientific labors, can be known with a fullness of understanding that has never been possible until now.

Although the work of the second expedition was singularly neglected in the formal literature after publication of Powell’s brief *Report of Explorations in 1873 of the Colorado of the West and Its Tributaries* (Washington, 1874), a good deal of attention was given to it by the contemporary press, as most of the members of the expedition contributed letters to their local newspapers. These letters make up a bulky literature in their own right, and as they are largely repetitive of the journals, it has been found inexpedient to reprint them, except for F. M. Bishop’s correspondence to the *Bloomington (Ill.) Daily Pantagraph*, published in the previous volume of this Quarterly, and four of Clem Powell’s letters to the *Chicago Tribune*, reprinted in the present volume to fill a gap occasioned by the loss of one of his four diaries. One additional letter, Clem’s last to the *Tribune*, so amplifies his journal account of the Hopi towns that it has been reprinted following his journal. S. V. Jones’s correspondence to the *Lacon (Ill.) Journal* may be seen in transcript form in the Powell Collection of this Society. Frederick Dellenbaugh’s correspondence to the *Buffalo Express* may be seen in the New York Public Library, in the form of clippings pasted in his original diary. E. O. Beaman contributed a few letters to *Anthony’s Journal*, a magazine devoted to photography which was essentially a house organ of

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1This report was substantially reprinted in this Quarterly, 1939, vol. VII, pp. 134-138.
the E. & H. T. Anthony Company of New York. John F. Steward makes some mention in his diary of writing letters to a local newspaper, but these have not been located. Inquiry has not disclosed the existence of any newspaper correspondence by Hillers, and it appears that the leaders of the second expedition, Major Powell and Almon Harris Thompson, wrote only letters to their families, which however occasionally appeared in print. Andy Hattan evidently found cooking a sufficiently creative labor, and left belles-lettres to his comrades.

Powell's fascinating report on his explorations, published in 1875, oddly neglected the great labors of the second expedition, and until this Society embarked in 1939 upon the project of publishing the original journals of the members of the Powell Survey, what was known of their work owed chiefly to Frederick S. Dellenbaugh. In 1877 he wrote a narrative of the canyon voyage of 1871-72 which, about 1886, he published in the Ellenville (N. Y.) Journal. It was 1902, however, before the second expedition began to come into its own. In that year Dellenbaugh published his The Romance of the Colorado River, in which he gave proper attention to the great exploration of 1871-72 down the dangerous river, and six years later he followed the first book with A Canyon Voyage, a fuller and more personal account of the work that he and his comrades had done in 1871 and 1872.

Now, taking up where Dellenbaugh left off, the Utah State Historical Society has substantially completed the documentary record of the Powell Survey, at least for the years of its inception. None of the diaries printed, it may be remarked, extend beyond the field season of 1872 with the exception of Thompson's, which continues to 1875. All the original members of the Powell Survey except Hillers had left by that time, and the work done after 1872 must be sought out, for the present, chiefly in some of the published reports, especially J. W. Powell's Report on the Geology of the Eastern Portion of the Uinta Mountains . . . (Washington, 1876), G. K. Gilbert's Report on the Geology of the Henry Mountains (Washington, 1878), C. E. Dutton's Report on the Geology of the High Plateaus of Utah (Washington, 1880), and Dutton's Tertiary History of the Grand Canyon District (Washington, 1882).

In preparing all these diaries for publication the Utah State Historical Society has been fortunate in having the aid and advice

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3See the discussion by William Culp Darrah in the preceding volume of this Quarterly, p. 16.
4Manuscript and clippings are preserved in the New York Public Library.
5Dutton has been the subject of a doctoral study by Wallace Stegner: Clarence Edward Dutton, Geologist and Man of Letters, State University of Iowa, 1935. An abstract of this thesis was published by the University of Utah as Clarence Edward Dutton, An Appraisal (Salt Lake City, [1936]).
of three notably qualified authorities, Dr. Herbert E. Gregory, William Culp Darrah, and Charles Kelly.

Dr. Gregory, who edits the journal of Stephen Vandiver Jones in the present volume of the Quarterly, will be remembered for the equally distinguished editorial work done on the journal of Almon Harris Thompson, published by the Society in 1939. Dr. Gregory was born in Middleville, Michigan, October 15, 1869, the son of George and Jane (Bross) Gregory. After receiving his A.B. from Yale in 1896, he served there as an assistant in biology, 1896-1898, and as instructor in physical geography from 1898-1901, meanwhile receiving his Ph. D. in 1899. Subsequently he became assistant professor of physiography, 1901-1904, Silliman professor of geology, 1904-1936, and in 1936, professor emeritus. He served as a director of the Bernice P. Bishop Museum in Honolulu, T. H., 1919-1936, and has been director emeritus since that time. His numerous subsequent activities include Geologist with the U. S. Geological Survey, Regent of the University of Hawaii (1936-1945), Chairman of the Committee on Pacific Investigations of the National Research Council (1920-1946), and United States Member of the Pacific Science Council (1946—). Since 1941 Dr. Gregory has been on special assignment for military service. He is a fellow of the Geological Society of America, the Association of American Geographers, the American Academy of Arts and Sciences, the American Philosophical Society, and the Geological Society; and he is a member of the Explorers Club (New York), the Cosmo Club (Washington), and the Pacific Club (Honolulu). Among his many papers on geology and geography, which have been concerned with Utah, Arizona, Peru, Australia, Connecticut, and Hawaii, those which are of especial regional interest include The Navajo Country, A Geographic and Hydrographic Reconnaissance, Washington, 1916; Geology of the Navajo Country, Washington, 1917; The Kaiparowits Region, prepared in collaboration with R. C. Moore, Washington, 1931; and The San Juan Country, Washington, 1938. In 1908 he married Edna Earle Hope of Charleston, S. C., who herself will be remembered as the author of "Iosepa, Kanaka Ranch," published in the Utah Humanities Review, January, 1948. Dr. and Mrs. Gregory make their home in Honolulu.

The second of the journals published in the present volume of the Quarterly, that of John F. Steward, is edited by William Culp Darrah, of Medford, Massachusetts, to whom this Society is so signally indebted for the documents and biographical sketches of the first Powell expedition of 1869, published in the last volume of the Quarterly. A sketch of Mr. Darrah's career as a paleobotanist and industrial engineer was published at that time, but it may be noted that Mr. Darrah is now completing the biography
of Major John Wesley Powell for which there has been such a long-felt want. Mr. Darrah's energetic research into all phases of Powell's career is well evidenced by the comprehensive biographical sketches he has supplied, first of Powell's associates of 1869, and now also of the men of 1871-72 whose journals have not been published and who therefore merit special biographical treatment. These inquiries by Mr. Darrah into the life of Powell and his contemporaries are only one phase of his many-sided interests in a neglected field of Americana, the development of science and technology between 1840 and 1890 when American life as a scientific and industrial phenomenon began the intricate evolution which has changed the history of the world.

Charles Kelly, who edited the journal of F. M. Bishop in the preceding volume of this Quarterly, and who has edited that of W. C. Powell for the present volume, has been one of the most indefatigable investigators in Western history since he settled in Salt Lake City in 1919. Born February 3, 1889, in Cedar Springs, a Michigan lumber camp, he was the son of an itinerant preacher, and learned to set type at the age of seven. He became a professional printer, and in 1924 entered the Western Printing Company in Salt Lake City as a partner. An artist by inclination, he took up painting as a hobby and soon became interested in the colorful desert country. In the course of his sketching trips he became fascinated with the Donner Party and its travails in crossing the Salt Desert in 1846. The result of his investigations was a series of interesting contributions to this Quarterly in 1930 followed by Salt Desert Trails, which he printed and published himself the same year.

With an omnivorous interest in geology, anthropology, and archeology, Mr. Kelly has contributed to recent work in all these fields, but history has mainly preoccupied him, and he has become an authority in virtually every phase of Western history. His first book was followed in 1934 by Holy Murder, a biography of Porter Rockwell written in collaboration with Hoffman Birney. In 1936 appeared Old Greenwood, a biography of the old mountain man, Caleb Greenwood, and this was followed in 1937 by Miles Goodyear, another such biography written in collaboration with Maurice L. Howe. The next year he published the Journals of John D. Lee, as well as Outlaw Trail, a history of Butch Cassidy's Wild Bunch. Long interested in the Colorado River country, Mr. Kelly was a member of the party of Russell G. Frazier and Julius Stone which descended the Colorado in the summer of 1938 to place a marker at the Crossing of the Fathers. Mr. Kelly's article concerning that trip, published in the Saturday Evening Post for May 6, 1939, was instrumental in bringing to light the Walter Clement Powell journals.
In 1941 Mr. Kelly sold his printing business, and with his wife, Harriette Greener, whom he married in 1919, moved to Fruita, Utah, in the heart of the red rock land he loves so well. Besides acting as Custodian of Capitol Reef National Monument, he raises fruit, paints, writes articles on the desert, and at the drop of a hat goes chasing off in quest of any new information bearing on the history of the mountain-desert country, particularly if it is a previously unknown inscription carved by some known or unknown traveler of the early West. The world authority on these inscriptions, Mr. Kelly has made them yield up striking information about the seemingly impenetrable past, as readers of his articles on Denis Julien and Antoine Robidoux, published in this Quarterly in 1933, will well recall.

In addition to the debt owed these three remarkably well-informed editors, the Society is notably indebted to many other persons and institutions who have enabled the project of publishing the Powell journals to become a reality. As in so many other recent projects of this Society, the New York Public Library has been helpful in the highest degree in providing information and making available for publication the historic documents that have been deposited in its safekeeping. To Robert W. Hill, Keeper of Manuscripts, we are indebted for permission to publish the diary of S. V. Jones. The Chicago Historical Society and the New York Public Library, both custodians of transcripts made by John F. Steward from his original shorthand diary, joined in their consent to publication. Mrs. Mabel Bradley, only daughter of Walter Clement Powell, who has deposited the originals of her father's diaries in the museum at Grand Canyon National Park, similarly consented to their publication here.

Others to whom the Society extends its especial thanks include the Illinois State Historical Library, the California State Library, the Bancroft Library, the Salt Lake Free Public Library, the Genealogical Society of Utah, the L. D. S. Church Historian's Office, the Chicago Tribune, the Chicago Historical Society, the University of Chicago, the University of Michigan, the Library of Congress, the National Archives, the Bureau of American Ethnology, the United States Geological Survey, and the Corps of Engineers of the War Department. Individuals who have been very helpful include Cabot T. Stein, Constantine A. Yeracaris, Robert W. Hill, Paul North Rice, Jay Monaghan, Mrs. Margaret A. Flint, Paul M. Angle, J. D. Kilmartin, W. W. Teeter, Richard Fennmore, Miss Margaret Whittemore, Mrs. Helen W. Mellor, Mrs. Juanita Brooks, Dr. Wallace Stegner, Mrs. Mamie Hall Laughlin, Mrs. M. S. Stetson, Mrs. M. W. Krause, and J. Cecil Alter. All three of the editors in this volume, Dr. Gregory, Mr. Darrah, and Mr. Kelly, made immense contributions to the volume as a whole, beyond their individual
editorial contributions to the journals; the present volume not less than the original Powell explorations themselves is a monument to the cooperative work of many persons.

Like the preceding volume, the present Quarterly owes a great deal to the energy and imagination of the Society's Secretary-Manager, Miss Marguerite L. Sinclair. Of the Society's staff, Mrs. Elizabeth M. Lauchnor's labor with the details over a period of more than a year has been indispensable, and she has been ably assisted by Miss Lorraine Stout, Miss Patricia Tull, and Mrs. Ray T. Stites.

Photographs have been supplied by the U. S. Geological Survey, the Corps of Engineers of the War Department, the New York Public Library, Dr. Herbert E. Gregory, W. C. Darrah, Charles Kelly, Mrs. Mabel Bradley, and Richard Fennemore. The frontispiece is reproduced by courtesy of the artist, Miss Margaret Whittemore, her mother, Mrs. L. D. Whittemore, who first published it, and Mrs. Ray T. Stites, to whom our autographed copy was sent by Frederick Dellenbaugh.

Six sectional maps providing detailed topographical information were published in vol. XV of this Quarterly. Those maps are supplemented in this volume by a simplified map of the whole Green-Colorado river system, as far as the mouth of the Virgin River, which was prepared for the Society by Herbert M. Fehmel.

DALE L. MORGAN,
Acting Editor.
STEPHEN VANDIVER JONES
As he appeared about 1900

Courtesy, Dr. Herbert E. Gregory
Stephen Vandiver Jones was born September 19, 1840, and spent his boyhood days on a "backwoods farm" near Evansville, Wisconsin. On the death of his father, Stephen, then about 14 years old, moved to Illinois, where he worked as a farm boy from place to place, attended country school in the winter time, worked his way through a seminary, and finally qualified as a teacher—the dream of his boyhood days. In 1870 he became Principal of the Washburn schools, where, probably through A. H. Thompson, a fellow teacher and the brother-in-law of Major J. W. Powell, he seems to have learned of the proposed second traverse of the Colorado canyons. On the invitation of Powell, he accepted an appointment as assistant topographer to the expedition, and with the approval of the school officials relinquished his principalship in April, 1871. After returning from Utah, he married Jennie Boys on January 22, 1873, and resumed his position as an educational leader. John R. Tweddale of Washburn, aged 83 years, writes: "I was a pupil of Mr. Jones at the time he joined the expedition. He was above the ordinary men, a student as well as a teacher. He was one of the best teachers who ever taught in our schools, and a splendid man." Though successful as a public school teacher, Jones seems to have had other, more absorbing interests. His son, C. R. Jones of Sioux City, Iowa, remarks: "He was always of a studious nature; he devoted his evenings and spare time to serious reading. The time not needed for school work was devoted mostly to the systematic study of law, and as time went on law became the career." Jones practiced law at Washburn and at Metamora, Illinois. In 1883, in search of a larger field of opportunity, he moved to Parker, Dakota Territory, where until his death in 1920 he was a lawyer of outstanding ability, much interested in public affairs. He took a leading part in preparing the constitution and legal code for the prospective State of South Dakota.

Jones writes little about himself or about the conduct of his companions. Among the rare personal references are the comments: "Feeling very unwell but when the boat moves try to do my part." "Spent the day finding fault with each other." "Had a fight to catch the mules." As his diary shows, he treated his tasks as the normal activities of a topographer; instrumental observations and sketching during the day and mathematical calculations and the compilation of notes during the evening. Judging from the comments of his associates, Jones was a man of energy and resourcefulness, relied upon for tasks that demanded endur-
ance, nerve, and skill. With equal willingness he seems to have done the camp chores, faced the unexpected obstacles incident to river traverses, and mapped regions difficult of access. In 1871 and 1872 he was in command of the "Emma Dean." In recording the activities of the expedition, Thompson and Dellenbaugh frequently refer to Jones in terms that to those familiar with exploration take on large meaning: "Knocked out of the boat by breaking an oar in a rapid; in some way he succeeded in scrambling back"; "Fred was thrown from the boat by a lurch, the Major and Jones jumped to help him"; "sent out to Kanab for additional supplies" (on a 90 mile almost trackless route); "sent to Pine Valley Mountains with six days' rations"; "started to go as far on the Kaibab as he could"; "Jones and myself [Thompson] crossed the river, reached the highest point yet climbed, about 3100 feet"; "Jones climbed cliff, pulled Prof. up with his revolver belt"; "sent Jones and Bishop to the top of the cliff to get the topography"; "Captain Dodds and Jones took rations and went on trail to the river [in the Grand Canyon]"; "sent Jones to Johnson for horses"; "found the horses, brought them down"; "Jones had been badly kicked three times, his hands were burned by the ropes before the excited animals were put to the wagon." The devotion of Jones to his work is shown by his attitude toward personal discomforts. Dellenbaugh remarks that at the end of the river trip (October 21, 1871), "Jones developed inflammatory rheumatism in both knees but especially in the one which had been injured by the fall at Junction. Though he was perfectly cheerful about it, he suffered excruciating pain and was unable to move from the bed of willows which we made for him." On the overland traverse to Kanab, Jones had to be lifted on and off his horse—"He was chilled through—yet he thought that a week or two of warmth and rest accompanied by a change of diet would make him whole again and enable him to stay till the end of his special task." And remain he did until his assigned work was completed—November 30, 1872.

The work done by Jones is large in amount and creditable in quality. It reflects a professional interest and shows the value of his training in mathematics, enhanced by teaching and experience as a surveyor. As a topographer, his most noteworthy contributions are his maps of the Pine Valley Mountains, Virgin Mountains, the Uinkaret Plateau, and the upper Virgin River Valley. He assisted Thompson in defining the latitude and longitude of base lines near Kanab. Recent field investigations show the substantial accuracy of the surveys credited to Jones.

At the time Major Powell organized his famous expeditions, parts of the Colorado River basin were fairly well known; other parts had been visited by adventurous scouts, but long stretches of the river and its "back country" were substantially unknown.
In the decades 1825-45 Ashley and his fellow trappers, Beckwith, Fitzpatrick, Provost, and the Sublettes, traversed the canyons of the Seeds Keedee (Green River) above Jensen. Wolfskill (1830-31), Gunnison (1853), and Frémont (1853-54), examined the country about Greenriver, Utah. The Colorado below the present Hoover Dam had been navigated in 1857-58 by Lieutenant Ives in the "Explorer," and in 1866 by Captain Rogers in the "Esmeralda." Records of the War Department show that in 1867-68 plans were considered for traversing the Colorado upstream from Callville, Nevada. Colonel Williams made the sagacious comment (March, 1868), "I believe there are no falls [in the river], and I am inclined to think the best way is to start above and descend." Early knowledge of the lower Colorado is further shown in the establishment of ferries at the mouth of the Virgin River and Grand Wash (1862) and a river port at Callville (1864). The south rim of the Grand Canyon, discovered by Lopez de Cárdenas in 1540, was visited by Ives (1857-58) and other explorers of northern Arizona, and during the decade 1855-65 the north rims of Grand, Marble, and lower Glen canyons were visited by the pioneers of southern Utah. In 1858 Mormon missionaries began crossing the Colorado at the Crossing of the Fathers, and as early as 1868 at the mouth of the Paria. For the 501-mile stretch of its canyoned course between the mouth of the Green and the foot of Grand Wash Cliffs, very little was known of the Colorado River before the epic traverse by the Powell parties. In 1869 knowledge of the entire river had not advanced much beyond that expressed by Thomas J. Farnham (Travels in the Great Western Prairies, the Anahuac and Rocky Mountains, and in the Oregon Territory, Poughkeepsie, 1841), "The Colorado has a general course from the northeast to the southwest of 700 miles to the head of the Gulf of California. Four hundred of this 700 miles is an almost unbroken chasm or Kenyon with perpendicular sides hundreds of feet in height at the bottom of which the waters rush over continuous cascades." As late as 1868 the official military map of Utah shows in outline the topography of the Green and Grand river valleys and the course of the Colorado, but the country north of the Grand Canyon between the river and the Utah High Plateaus is represented by a blank space. Reliable knowledge of the Green and Colorado rivers and of their marvelous country is the product of the "Powell Survey," which, beginning with somewhat amateurish explorations, developed into a comprehensive program for the topographic and geologic, and archaeologic study of the plateau country.

The first Powell expedition (1869) was an undertaking of phenomenal daring that resulted in a dramatic triumph. However, the knowledge gained of the river and its adjoining lands
consisted chiefly of roughly determined distances and directions, the character of the river currents, the form and height of the canyon walls, and scanty descriptions of the most prominent topographic features. The expedition was meagerly financed, and was composed of personal friends—all, so far as known, uninterested and unskilled in making and recording scientific observations. Because of unforeseen difficulties the trip planned to occupy 10 months was shortened to 3 months—30 working days in the Colorado canyons. Supplies designed for 8 months were exhausted in 2 months. One boat was wrecked, one abandoned, and 4 men left the party.

In his Preliminary Report to the Secretary of the Smithsonian Institution (April 30, 1874) Powell briefly mentions the accomplishments of the 1869 expedition; the bulk of the report relates to the land surveys made in 1871-72. His highly generalized final report, The Exploration of the Colorado River of the West and its Tributaries, Explored in 1869-70-71-72, published in 1875, relates in large part to the work of the expedition of 1871-72, which strangely, he fails to mention. In fact, if Powell had ceased work in 1869 he would have realized his absorbing ambition to make the first traverse of the unknown Colorado canyons, but would have contributed little to scientific knowledge of the plateau country.

In comparison with the first expedition, the second Powell expedition (1871-82) was better equipped, better organized, and more skillfully conducted. Its more nearly adequate funds included a grant of $10,000 by the Smithsonian Institution, whose support was acknowledged in assigning names to prominent features: Henry Mountains (Joseph Henry, Secretary of the Smithsonian Institution) and Smithsonian Butte. In selecting the personnel for the expedition, Powell filled the key positions with men of ability, special training, and professional experience—Thompson and Jones, topographers, Dellenbaugh, artist, and Beaman, photographer. The other members of the expedition are appropriately classed as general assistants: Civil War veterans and other personal friends and relatives from Powell's home town and home college. Of the 11 members of the expedition 9 were residents of Illinois and 3 were residents of the city of Bloomington. Throughout their term of service Jones and Thompson, topographers, continued the work for which they were selected, but as the work progressed Dellenbaugh, artist, developed into a topographer, and Hillers, camp assistant, found his forte as photographer. After the work along the Colorado canyons had been completed, the river party became a land party engaged in topographic mapping. At the close of the field season of 1872, Jones, Hattan, and W. C. Powell left for their homes not to return. Dellenbaugh remained active in service until
February 25, 1873. Thereafter Major Powell, Thompson, and Hillers, with such notable additions as John Renshawe and W. H. Graves, topographers, and G. K. Gilbert and C. E. Dutton, geologists, carried on the Powell Survey, officially the United States Geographic and Geological Survey of the Rocky Mountain Region (1871-1878), and became the core group of the United States Geological Survey, founded in 1879.

In 1871-72 most of the present settlements in southern Utah had been established and connected by rough wagon roads. Horses and camp supplies for the expedition were easily obtained and capable assistants were available. To no small degree the success of the land surveys is due to the skill and knowledge of Utah men employed as guides and packers—particularly William D. Johnson, George Adair, Jacob Hamblin, Fred Hamblin, George Riley, and Nathan Adams.

The history of the second expedition is recorded in diaries by Dellenbaugh, Thompson, Bishop, Jones, Steward, W. C. Powell, and (at present unlocated) Hillers and Beaman. All these diaries are remarkable for clarity and wealth of detail. They cover substantially the same ground, but differ much in manner of presentation and in scientific value. Dellenbaugh published two widely known books—*The Romance of the Colorado River*, and *A Canyon Voyage*. Though based on his diary and those of his associates, they were designed for general reading, and therefore the geographic features of the region traversed are described in somewhat general terms and only the most interesting experiences of the expedition are recounted—and dramatized. Appropriately he eulogized Powell as a man and a scientist, but unfortunately he adversely criticized contemporary workers—which Powell never did. In particular he belittled the work of Wheeler, who investigated the navigability of the lower Colorado in 1869-70, and in 1871, in company with G. K. Gilbert, explored the lower Grand Canyon below the mouth of Diamond Creek and mapped the geologic and topographic features which Powell in his rapid traverse of 1869 found no time to study. The diary of A. H. Thompson is a day-by-day account of scientific observations and camp life. The diary of Stephen V. Jones is also a faithful record of daily activities. It supplements the records of Thompson. Both of these diaries are source material of high permanent value, and though not intended for publication, they are remarkably well written and easy to understand. F. M. Bishop's diary is a carefully kept daily record by a trained observer which is at the same time a human document of genuine pathos and interest. John F. Steward's diary, though in a sense marred by later interpolations, is an interesting picture of the impact of the eroded canyons upon a trained geologist. The diary of Clem (W. C.) Powell, Major Powell's impressionable,
somewhat egotistical young cousin, has little value as a scientific report, but as a human document is unusually interesting. It deals largely with personalities and in accord with its author's varying moods, praises or anathematizes the leader and each member of the expedition. Doubtless if young Powell had expected his diary to appear in print, his gossipy comments would have been differently phrased. Unfortunately they have been considered by some writers as authoritative (Utah, a Guide to the State, 1941). As English literature, Jones's diary ranks first. Though it consists of unrevised field notes jotted down at times when the strenuous activities of the expedition permitted, it exhibits the simplicity, clarity, and the thoughtful selection of material that characterize all good descriptive writing. In places it records the artistic and philosophic impressions of its author in almost poetic form:

Wish it were possible for me to paint or describe the beauty of sunset here. As the God of the day approaches the west, its gates are lighted with gold and pearl in honor of his coming. The distant clouds of deepest blue are tinged with purple, and the whole western horizon reflects his glow. The white clouds that rise from beyond the mountains form a background more splendid than can be described. Slowly the sun sinks, now the brightness of his face is veiled in a passing cloud. Anon he beams full upon the earth he is leaving to darkness. Now half of his disk is hid. Now with a sudden plunge he is gone behind the Uintahs. His beams still illumine the horizon above us, but the light is growing fainter, and still fainter. It has disappeared and night and the silence of the wilderness are around us.

As I have stood on the summit of some towering mountain and surveyed the scene spread before me, have felt the utter impossibility of expressing the thoughts that would rise, and as these wonderful works of nature were in view have felt how great the power that formed them, how much above human comprehension He who set in motion the wonderful machinery of the universe. No matter how long these hills may have been forming, no matter what the forces that caused these massive rocks to assume their present form, no matter how long it may have been since this whole country was covered with water, no difference if man cannot reconcile the Mosaic account of creation with the Geological account, there is, there must be a power higher than nature, that controls her works and I try to look through nature up to nature's God.
When I reflect too that this is my own country, that it is indeed the land of the free, that no slave breathes within its broad expanse, that no tyrant bears rule within its limits, I feel proud to look around and say, "This is my own, my native land." The words, "I love thy rocks and hills, thy thousand bright and gushing rills," have to me a new, a wider, higher meaning than ever before.

In addition to the voluminous diary here printed, other records of Jones's labors during 1871-72 survive in the form of letters to his home newspaper, the Lacon (Ill.) Journal. These are not reprinted because they duplicate without materially adding to the information contained in the diary. Transcripts of these letters, however, may be examined in the Powell Collection of the Utah State Historical Society.

As here presented, the Jones diary is the reproduction of a manuscript in the Library of the United States Geological Survey, which bears the notation:

Diary of
Stephen Vandiver Jones

Volume 1. Green River, Wyoming, to Lees Ferry, April 21 to July 25, 1871.
Volume 2. Topographic work vicinity of Pipe Springs, Kanab, House Rock Spring, and Lees Ferry, August 1 to December 14, 1872.

Typewritten in Salt Lake City, Utah, January and February, 1930, from photostat copies of the original in the New York City Library and introduced as part of Government Exhibit 628 in the case of United States vs. Utah. No. 15 original, United States Supreme Court.

The diary was presented to the New York Public Library by Mrs. S. V. Jones, July 25, 1922. Permission to publish was generously given by Robert W. Hill, Keeper of Manuscripts. In preparing the text for publication, care has been taken to reproduce the wording and in essential respects the arrangement adopted by the author. A few changes have been made in spelling and grammar to correct obvious errors incident to unrevised note-taking and to the typing of handwriting more than 70 years old. It was Jones's habit to write out numerals and also note them in figures in parentheses, though he was not always consistent in this. In publishing his journal this duplication has been eliminated, figures alone being used in most instances. In the notes, references to Dellenbaugh are from A Canyon Voyage, New York, 1908; to Thompson, from "Diary of Almon Harris

HERBERT E. GREGORY.
Friday, April 21st, 1871. Major Powell, wife, and W. C. Powell, F. S. Dellenbaugh, [Frank] C. A. Richardson, leave Chicago this morning for the west via Omaha.

Monday, April 24th. Left Normal, Ill. at 3 P.M. on C. & St. Louis R.R. From Normal to St. Louis; our party are A. H. Thompson & wife, Francis M. Bishop, John F. Steward, Andrew J. Hattan, and myself. With us are Rev. Joseph Powell, and Rev. Jesse Smith, going to Denver, Colorado, W. B. Powell going to Topeka, Kansas. E. O. Beaman met us at Brighton. In St. Louis at 10:30 P.M. Find quarters at the Planters, and Everett.

Tuesday, 25th. Left St. Louis at 5 P.M. for Kansas City on North Missouri R. R. Crossed Missouri River at St. Charles on Steam ferry at 5:30. Company building iron bridge just above ferry. River near ½ miles wide. Running along river until dark. Country much broken, and buildings generally poor, many of logs with stick chimneys. Towns usually have that tumble down appearance peculiar to the south. For farming Crow Creek preferred. Hatton [sic] pointed out the scene of a fight in which he took part in 1862 opposite Liberty Landing. Distance from St. Louis 272 miles.

Wednesday, 26th. Arrived at Kansas City at 6:40 A.M. Several heavy showers of rain and hail during day. The city is built on and among the hills. Is a fine growing town. Has many good brick blocks. Business men mostly from the east. Streets are very narrow. Has about 32,000 inhabitants. North and separated by the Kansas River is Wyandotte. Has about 3000. Missouri River flows S.S.E., Kaw East. Left on Kansas Pacific R. R. at 10:45 P.M. Cross Kaw River. Bid goodbye to Missouri and enter Kansas. Too dark to see, so settle down to sleep. This road is quite smooth, and cars good.

*Colorado River Exploring Expedition.*

Organized in Illinois for the purpose of exploring and surveying the Green and Colorado Rivers, by act of Congress, $24,000.00 Appropriation.

Thursday, 27th. Daylight finds us near Ogden [Riley County] 130 miles from Kansas City following the Smoky Hill River. River on left, and river bluffs on right or north. Soon pass Fort Riley where Uncle Sam keeps a detachment of boys in blue. The bluffs are full of limestone, which is seen cropping out. Country fast settling. The great lack is timber. See many stone houses, and miles of stone fences. Our first view of the Antelope was about 8 A.M., when 4 jumped up on our right not far away, and galloped swiftly to the north. Breakfast at Salina. Cross Republican and Solomon rivers, branches of Smoky Hill. Near the town of Solomon are salt works, the water coming from wells and being boiled. Just west of Ft. Harker, 218 miles from St.-City, the cry of "there they go," called the attention of all to the north side of the track where sure enough 2 Buffalo startled by the noise of the train, were galloping off, their seemingly unwieldy bodies rising and falling not unlike the swell of the waves. Soon after we came into a town of the Marmots, or Prairie dog. Many shots were wasted at them as also the Bison and Antelope. The Buffalo are traveling north. Many in sight but none near enough to be reached. The carcasses of thousands lie on either side of the road. Near Wallace, 457 miles west of K.-City, the forms of some mounted figures in pursuit of Bison could be seen. Learned at the station that 400 Sioux were camped in that vicinity hunting. Darkness closed round us near here, and a second night was spent on the train.

Friday, 28th. Daybreak near Box Elder 610 miles from K.-City. My eyes were turned S. E. for a view of Pike's Peak, and very soon the snow-capped summit came in sight. The distance from us to the mountain was variously estimated from 10 to 40 miles. Its actual distance about 175 miles S. WE. [in Jones's manuscript "W" and "E" are combined]. To the north at about 85 miles Long's Peak towered above the neighboring hills. Last night was cold, and this morning shows snow in patches all around us. At Denver 639 miles west of K.-City at 7 A.M., where we met Major Powell. Breakfast at the Ford House. Among other dishes new to most of us were Elk steak and Buffalo ham. At 8:20 we took the train for Cheyenne 106 miles north. Follow Platte River 8 or 10 miles, then cross. Here the stream is about 10 rods wide, and very swift. Fifty-two miles from Denver brings us to Greeley, the finest town yet seen west of the Missouri. Reach Cheyenne at 1 P.M., where we met the rest of the party. Leave on the U. P. R. R. at 1:30 P. M. Through the P. M. we are constantly ascending, and at 3:30 P.M. we reach Sherman, 8200 feet above the level of the sea, and the highest point reached by rail on the Continent. At Laramie stop
for supper, and I improved the time in running around collecting items. Find a Baptist Seminary of 40 pupils and a public school of about 100.

**Saturday, 29th.** After another night on the cars, soon after daylight we reached Sweetwater [ ] miles from Laramie. Running among immense rocks, ground covered with Alkali; the only vegetation in sight is sage grass and grease weed. Reached Green River City at 7 A.M. Breakfast at Fields, a good square meal for 50c. Launched the boats at the R. R. bridge, dropped down about ½ mile & landed on east side in a little cove. Find the boats, the "Canonita," the "Nellie Powell," the "Emma Dean," much better than was expected; do not leak a drop. After landing the boats went to dinner. Occupy a small board building belonging to Fields. After dinner some commenced unpacking things, others painting boats. From Cheyenne to Green River 330 miles.

**Sunday, April 30th.** It is said that Sunday has never crossed the Missouri River, and it is sure that it is not here today. Will be obliged to work every day. Spent the day in seeing to the painting of the boats, and fix my things. Men painting, unpacking goods, and preparing them for the trip. Those that are to meet us at Grand Canon for next winter, are to be sent to Salt Lake. Steward & Richardson collected Geological specimens. Dellenbaugh made sketches.

**Monday, May 1st.** Got permission to occupy an adobe house, and Beaman, Photographer, took possession and unpacked his instruments. Some of the men painted on boats, some prepared goods. Thompson and self determined height of cliff north of R. R. track called Fish Butte; find it to be 415 feet from our level. We are about 5000 feet above the sea level. After this took time observation of Sun. At night tried to get Lunar observation but froze out. Slept cold.

**Tuesday, May 2nd.** Last night was the coldest I ever experienced in May, but when sun arose air grew warm, and the day was beautiful. Bishop and Steward finished painting boats. Dellenbaugh sketched. Beaman and Powell photographed some views. Thompson and self took time observation. This morning Major Powell started for Fort Bridger, is to return to R. R. tonight. In evening most of us went to the residence of Mr. [S. I.] Field, in visiting and singing. Find more refinement than was expected in this wilderness. Mrs. Field is a perfect lady and with her sister-in-law, Mrs. Wire & niece, Miss Wire, form a fine family.

**Wednesday, 3rd.** Mrs. Powell and [Mrs.] Thompson left on 7 A.M. train for Salt Lake where they will remain until fall, then meet us at Grand Cañon. Thompson, Bishop, and self took time observation, at 10 A.M. and 2 P.M., and Lunar at 9 P.M.
Truthful James (Steward) collected specimens. Sandy (Dellenbaugh), made sketches, Little Breeches (Richardson), tried to climb bluff to take observation with Barometer, but failed. The boys have named nearly every one by some nick name. Have moved camp into the willows near wood; go there to eat, and Hattan (General) has slept there 2 nights, but came to the house tonight.

Thursday, 4th. Took observation in A.M. and P.M. Bishop & Steward painted boats. Beaman took 2 pictures of Fields and 2 of the boats. Fixed up things and shipped to Salt Lake for company. Sent valise with suit of clothes in care of Mrs. Thompson. This town is composed of about a dozen houses occupied and half as many unoccupied. Some are built of boards, some of adobes, some of board covered with canvas, and a few, belonging to the R. R. company, of frame. There is a good Depot about 40 x 20 feet, and eating house, & water tank. Green River flows from N. W. to S. E. On both sides are sandstone bluffs. The R. R. runs here nearly east and west through the valley and the town is on the south side of the R. R. and north of the river. One store kept by S. I. Field, a New York man, who with his wife, sister-in-law, and niece, Mrs. & Miss Wire, form a fine family. Have a Melodeon and plenty of sheet music. Is a fine place to spend an evening.


Saturday, May 6th. Showers nearly all day so did not get any observation. Boys collecting specimens.

Sunday, May 7th. Took observation in the morning, but was prevented from finishing by clouds & rain in afternoon. Men resting and writing letters. Thompson, Steward & self took walk to the north, the first time I have left camp since our arrival. River commenced rising.

Monday, May 8th. Mr. Thompson left for Salt Lake on the 7 A.M. train. Bishop & self took time observation. Put rations into rubber sacks. Quite heavy rain about 5 P.M. We have erected a small tent in rear of house for Lunar observations; this with our flag attracts the attention of passengers on the trains. We sometimes get cheers, and frequently waving of handkerchiefs.

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The members of the 1871-72 expedition, with their nicknames, were: E. O. Beaman (no known nickname); Francis Marion Bishop (“Cap” and “Bish”); Frederick S. Dellenbaugh (“Fred,” “Rusty,” and “Sandy”); A. J. Hattan (“Andy” and “General”); John K. Hillers (“Jack” and “Bismark”); S. V. Jones (“Deacon”); J. W. Powell (“Major”); W. C. Powell (“Clem”); Frank Richardson (“Frank” and “Little Breeches”); John F. Steward (“Ford,” “Sergeant,” and “Truthful James”); and A. H. Thompson (“Prof.”).
Tuesday, May 9th, 1871. We slept very late this morning, and cook and [had] breakfast ready so long that it was cold. Beaman taking views. Steward finishing his Geological sections. Bishop & self took time observation. Dellenbaugh finished up some of his sketches. Richardson took ride on the engine, and Hatton cooked us 2 splendid meals. We are living high. Elk steak, warm biscuit, apple sauce, potatoes, and splendid tea & coffee. River rose about 3 inches in the last 24 hours.

Wednesday, May 10th. Cap Bishop commenced painting sign for Field. Steward made Geological Sections. Richardson to [took] Barometrical observations on top of a cliff. Beaman took some views. Bishop and self tried for time observation but were nearly prevented by clouds. Slight showers in afternoon. B. marked coincidences in time with Prof. Thompson in Salt Lake between 7 and 9 P.M.


Friday, May 12th. Time observation. Not much being done.


Sunday, May 14th. After taking an observation attended the first Sunday School ever held in Green River City. Ten children present. Took walk of about 4 miles out with Steward and C. Powell. Climbed one of the highest hills in this range.

Monday, May 15th, 1871. Tried for an observation but failed on account of clouds in afternoon. Fixed pants. Powell & Thompson returned from Salt Lake and with them came John Hiller[s], as general assistant.

Tuesday, May 16th. In the morning Beaman took pictures of the boats & crews. Crews then assigned viz., “Canonita” in charge of E. O. Beaman, Rowers W. C. Powell in bow, A. J. Hattan astern. To go last, “Nellie Powell,” commanded by A. H. Thompson. F. M. Bishop in bow, J. F. Steward at stern oar, Frank A. Richardson, extra. To go in center, “Emma Dean,” under my control. Fred Dellenbaugh in bow, John Hillers with stern oars, J. W. Powell, as commander—to go in advance. Then all took a row in river. The “Nellie” went above the R. R. bridge, by the boys wading and towing, then came down through the rapids. The “Canonita” went down stream and was brought back by Thompson, Hiller & myself. The “Emma” went across all right, then was pulled up a ways, but missed the landing coming down, went to the lower end of Camp Island and was worked up to place through an arm of the river.

Wednesday, May 17th. Helped Thompson take an observation for time, and one for Latitude. Some of the men worked on the boats.
Thursday, May 18th. Bishop, Hiller & self worked on the boats. Steward worked on Geology. Do not know what the rest did.

Friday, May 19th. Bishop, Hiller, Steward and self finished the boats, think they are now water-tight. Mrs. Field and the Misses Weir [Wire] honored camp with their presence to tea. Weather fair, sun shone all day.

Saturday, May 20th. Packed rations and loaded them into the boats. Surveyed line for Field.

Sunday, May 21st. Finished packing and loading boats. Took Topography of Green River & valley. Have done the hardest day's work since the starting of the expedition. We are now ready for a start tomorrow morning.*

Monday, May 22nd. After breakfast furnished by Mr. Field, got ready for a start. At 10 A.M. gave 3 cheers which were answered by the entire population gathered on the shore, turned our bows down stream and the long journey was begun. Ran 2½ miles when the "Emma" grounded on a bar—the "Nellie" just above and "Canonita" close below. All got into the water and pushed off. Dinner station left bank on a large island at 11 A.M. Wind blew a gale filling everything with sand. Started again at 1 P.M. and made camp No. 2 on right bank at 5 P.M. near a small log house belonging to a white man who keeps the ferry at the station. Boats float splendid. Have about 1500 lbs. each of load. Ran 10½ miles. Opposite camp is a round hill to which we gave the name of Round Top. After supper spread our

*Major Powell's own journal entries for the first three days of his second voyage down the Green and Colorado rivers are quoted as being of special interest:

      May 22. Started from Green River Station at 10 A.M. Breakfasted with Mr. Fields. The good people of the town came out to see us start and gave three cheers as we left the bank. We ran down against a stiff breeze to noon camp running aground on a bar just before stopping. After dinner we (?) in running around a bend to right the "N.P." and "Canonita" ran very hard on rocky wall carried by current. Camped at cabin. Found fossils, etc. Camp No. 2.


24. Started early. Stopped at 9 A.M. Beaman took photos. Bishop took topog. Steward and I climbed to foot of Needle; found fossils fishes. Creek comes in from "E." Had beautiful view of the Uintahs looking down the valley of the Green. The summits of these tower cliffs and needles at the general level of the country. Beaman took photo looking up valley of needles and towers from noon camp. (This photo not preserved.) Camped at mouth of Black's Fork No. 4.
The first camp of the Second Powell Expedition, May 4, 1871. Photographed by E. O. Beaman.
blankets and soon were asleep. Fred woke the camp in the night trying to choke me for an Indian.

**Tuesday, May 23rd.** Woke at daylight with the rain falling on my face. All in camp turned out, rolled up blankets, and waited for breakfast which was ready at half past six. Moved into the cabin, built fire and were soon comfortable. Rain soon became mixed with snow and until 10 the morning was very disagreeable. Most of the men worked at restowing the things in the boats; went with Steward to steep bluff about half a mile in rear of camp, cliff near 600 feet high. Had dinner and pulled out at 1:15 P.M. Fine bank, and several large cottonwoods. Gibraltar on right bank 764 ft. Little Dick 725 ft. on left bank.

**Wednesday, May 24th.** Slept cold last night. Sun rose clear and soon it was pleasant. Pulled out at 7:50 ran about 2 miles landed on left bank for Beaman to get view of Needle Cliff at 9. Smooth water. Thompson and self measured height of Needle & Boston Brown [Boston Loaf Butte]. Started at 10:45 ran until 11:45, landed on left bank under a cliff 200 ft. high. Started at 1:30 P.M. and before the “Emma” was fairly in the current ran aground in the shallows, and had to be pushed off. The other boats kept closer to shore and came through. Running through low hills, current about 2½ miles per hour.

Just before landing in afternoon saw 2 mule deer. Pulled in at 4:20 on left bank which was low and level. Opposite Black [Blacks Fork] a fork [which] flows in from west. Narrow, muddy, swift stream. Prof. and self took observation on stars for time and latitude. Got to bed at 11:30.

**Thursday, May 25th.** Started at 8:25 A.M. Am feeling very unwell, but still steer the boat and take topographical notes. Ran 6½ miles through still water, and mostly low round hills on both banks. Landed on left bank for dinner at 11:30 A.M. Started out at 2:25, ran most of the way through smooth water, currents averaging 2½ miles per hour. About 4:45 I saw a deer standing on the bushes on bank of an island on right. The Major tried a shot but missed; all the boats pulled in as quickly as possible and a hunt took place. We succeeded in getting 3, while one swam to right bank badly wounded but got away into the hills and one swam to left bank and got away unhurt. Thompson

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*Jones bunked with Dellenbaugh, who confesses that on this night he had not long been asleep before he saw "some men trying to steal our boats on which our lives depended and I immediately attacked them, pinning one to the ground. It was only Jones I was holding down, and his shouts and struggles to reach his pistol woke me, and startled the camp. He believed a real enemy was on him."*
killed one, Steward one & Hattan one. Dropped down about ¼ mile, landed on left bank, dressed game, and all hands went to roasting and eating venison. Am taking medicine and consequently must look on while others eat. Slept in sight of the snow-clad Uintahs. Camped on a fine little prairie of about 20 acres, covered with luxuriant grass. Much alkali in soil. Made [16 miles?].

**Friday, May 26th.** Started at 7:15 in morning ran 4-1/16 miles through comparatively still water, and landed on right bank at 9:30 for the purpose of drying our venison and getting the Geology & Topography of the country. Just before landing saw a beaver swimming in the river and Major and self tried several shots without effect. Too sick to do anything so laid in shade. Major, Prof., Cap & Steward climbed upturned Ledge back of camp and Steward struck across the country to near last night’s camp Geologizing. We spent the day here. Just before sunset when Thompson and myself were measuring the width of the river, our attention was attracted to a strange object coming down stream which soon proved to be Steward on a raft of his own building. Am feeling very unwell, but whenever the boat moves try to do my part; whenever possible lie on the aft hatch and let the boys run the boat. Have a very disagreeable camp on a sand bank, wind high, wood scarce and sand blowing over everything.

**Saturday, May 27th.** The “Nellie” pulled out at 7:15 to run to Flaming Gorge in time for an observation. The “Emma” left at 9:10 A.M., ran about 1½ miles; pulled in on right bank to allow of a visit to an upturned ledge. Very warm & high wind. The “Canonita” soon followed and passed us. We pulled off about 12 M., ran about 3 miles and made camp on left bank at 1 P.M. Water rough on account of wind blowing up stream. Camped just at head of Flaming Gorge, a pass through the rocks which are red sandstone, and look very much like a flame in the rays of the sun. The highest point of the gorge is about 600 ft., length ½ of a mile. Right where we stopped was the camp of the expedition of 1869; found the initials J. S. 1869 on a large cottonwood by the fire. Spent the day in working up position, collecting

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*The Powell party many times supplemented their rations by wild game: deer, beaver, grouse, mountain sheep, antelope, and geese. Clem Powell convincingly describes himself as one of the lucky hunters on this occasion, but Dellenbaugh and Steward agree with Jones in otherwise apportioning the credit.*

*The initials “J.S.” carved on trees and in rocks at several places along the Green and Colorado canyons doubtless refer to Jack Sumner, an energetic member of the Powell expedition of 1869. The original of Sumner’s diary, one of the few books carried by the 1871 expedition, said by Robert B. Stanton (Colorado River Controversies, p. 169) to have been sent to Powell in Washington, cannot now be found. An imperfect copy, however, covering the period July 6-August 31, 1869, survives and was published in vol. XV of this Quarterly.*
geological specimens, &c. Very high wind especially at night, which interrupted the taking of a Lunar observation. We are now in the country of the Uintah Utes. Mr. Thompson reports plenty of tracks among the hills, but no Indians to be seen. Got to bed about 11.

**Sunday, May 28th.** After breakfast read a few verses, then climbed a cliff back of camp with Prof. From its summit a grand view was presented. Flaming Gorge can all be seen; the river looks like a ribbon of silver. Horse Shoe Cañon can be traced; the Uintah Mountains with their snow-covered tops are in plain view to the South. Quien Hornet's white cap looms up to the northeast, while far up the river Boston Brown, passed on Wednesday. Just at our feet are some of the vertical cliffs caused by some great upheaval of the earth. From the northwest comes Henry's Fork of the Green, the most crooked stream I ever saw [which] empties into the main river about ¼ of a mile above camp.

Went down to camp in 15 minutes, the hill being quite steep and very narrow. Helped take observations for Time, Latitude and Longitude and work with calculations. Powell and Steward crossed the river after specimens. Beaman took some views, and although we did not travel, the day seemed but little like Sunday. High wind all afternoon, and terrific at night. Helped Prof. get a Lunar observation at night.

**Monday, May 29th.** Started at [8:00] from near head of Flaming Gorge, ran through that and just below ran into Horse Shoe Cañon, where we ran the first rapid. The "Emma" went through bow-on all right, without shipping a drop of water; the "Nellie" followed in our wake and came through like a duck; the "Canonita" got too far to one side, struck the rapid amidships and some waves went in. Current about 6 miles for a short distance. This was our first experience, and the boys seemed to like it. Stopped on left bank at [10:00] after a run of [3] miles.

After dinner Beaman went up the river to take some pictures. Steward and Fred, Thompson, Bishop, and self crossed the river; followed some deer about 2 miles, without getting a shot, then turned, climbed the highest cliff of the cañon to get the Topography of the country. The sun shone very bright while ascending, but shortly after reaching the summit the clouds covered the mountains, and the rain fell fast. After getting what was wanted and seeing the grandest view I ever looked on we descended, crossed to camp pulled out, ran [about 2] miles and landed on right bank at head of King Fisher Cañon. Bishop & self climbed a hill but got no good view as the hills around us were higher than this. Slept on a sand bank in the rain. The red sandstone on the

*Thompson commented, "It was our first real rapid and was exciting."
right of Flaming Gorge leaves us and runs to the southwest. Although this scenery is grand, it is said not to compare with the grand canons of the Colorado. Landed at — P.M.

**Tuesday, May 30th.** Did not move camp. Beaman took some pictures. Major went to the southeast over the mountains, got into camp about 1 P.M. Steward and Fred went back near Camp No. 7; gone until after dark. Prof., Bishop and self struck across the hills to King Fisher [Sheep?] Creek to the S.W.: followed it for about 3 miles, waded twice, found hunter's cabins, fresh beaver work and plenty of deer tracks, but got nothing. Took topography of creek to its mouth where it flows into the river through a gorge about 600 ft. high. Is a narrow, rapid, very crooked stream, and cold as snow. Got into camp about 1 P.M. After dinner spent the afternoon in fixing the boats, instruments, &c. Rain nearly all the afternoon. Slept comfortably although the night was very cold. We are getting things into shape so we can be quite comfortable. The “General” [Hattan] cooks us splendid meals and were it not for the sand that blows at every camp, had as soon eat his victuals as those found anywhere else.

**Wednesday, May 31st.** Started at 8:25 A.M., ran about 1½ miles to the mouth of King Fisher Creek, landed on right bank for Beaman to get a view. Started a deer which was soon wounded, and away he went up the gorge of the creek through thick brush and briars. Bishop & Self got together, crossed creek, struck his trail soon started him, when he swam the stream and climbed the side of the mountain; after an hour's weary climb gave up and went back. Waded creek 6 times. Just below creek is Bee Hive Point at Lower end of caño, 600 ft. high. The river bends to the left, with a fall of about 5 ft. and current about 5½ miles. Landed just below rapid opposite head of a beautiful island, while opposite was a cliff about 1000 ft. rose [sic]. Started at 2:30 ran another rapid and pulled up on low bank on right side at 3:15; camped in a beautiful cottonwood grove of small trees of [a] few rods from shore and near the head of Red Cañon. Just above camp the gray sandstone ends and the red begins very abruptly. Horse Shoe Cañon is about 2½ miles long. King Fisher about 3 miles. Rapid beginning at Bee Hive Point 3/16 mile. Soon after landing the boys rowed Steward across the river to hunt Geological specimens and just at land he fell into the water, which being the first mishap of the kind caused a big laugh. Assisted in taking an observation at night. One of the most beautiful nights that we were ever favored with; the moon shone in splendor, while the stars lent their gleam to add to the tranquil beauty of the scene. The boys feeling musically inclined brought
out a flute and raising their voices, woke echoes that but seldom have been roused to the sound of music.

Thursday, June 1st, 1871. Did not break camp, but had a harder day than when running. Bishop, Stewart and Richardson crossed the river. Thompson and myself climbed the hills in rear of camp. After an hour and half found ourselves about 1500 ft. above the river while back of us rose hills 300 or 400 feet higher than this. Climbed again 3 or 4 miles to a high hill where we could get good observations. Found a fine plateau with grass and large pine trees. Saw a deer who soon ran out of range and Prof. shot a dusky grouse. Got into camp about 2 P.M. and soon Bish came with another grouse. Both made soup enough for supper. Another splendid night. From camp could be seen the river, the hills on the opposite shore, all bathed in the soft moonlight, while the songs and calls of night birds are borne on the air. In such an hour one forgets the perils ahead, and thinks only of the pleasant part of life.

Friday, June 2nd. Broke camp at 7:15. Soon ran into Red Cañon and found a rapid. All went through safe but shipped considerable water. Stopped, bailed out. Looked at another rapid and concluded to run it and pulled out. Soon struck big waves and went bounding through. The "Emma" being in advance we saw where the river made a sudden turn to the left—a sunken rock. Pulled strong for the right, and signalled the other boats to follow. The "Nellie" was under such headway that she struck the wall on the right in an awful sea. Just then we struck waves 6 or 7 feet high with a current of about 15 miles, and our whole attention was required to manage our own boat. I saw the "Nellie" shoot under the rock, and caught sight of Prof., when in trying to run between 2 rocks, we struck on starboard taking off the stern row lock and down the stream we

*Powell's journal entry for this day evidences his flair for description:

Ran down into Kingfisher Cañon. Stopped in park at north of creek; wounded deer. Took views. As we enter the park we turn to left and looking back the way seems closed. Bold rocks of grey sandstone tower on the right and on the left crags and rocky slopes with scattered cedars, piñons, and firs. A beautiful meadow valley with clumps of alder. The Kingfisher comes in on the right through a narrow cañon valley with steep walls; the valley itself filled with alders and willows completely hiding the creek. Then the creek emerging from its own cañon meanders across the little park, its banks fringed with willows. The river flows at the foot of the cliff on the left and is hedged by a border of willows from the meadow on the right. Looking down river the walls seem almost to close where the river turns to the left around Beehive Point. And out through the cañon you can see the green and wooded slopes of distant mountains and a single snow bank like a long white cloud dropped from the skies and caught by the mountain ridge. After taking pictures we rounded Beehive Point and camped at head of Red Cañon.
drifted nearly at the mercy of the waves. After a hard struggle we made near land about ½ mile below, striking against a rock at the head of another rapid. All jumped into the water waist deep, and in a short time got our boat to land, half full of water. The “Canonita” came through all right but nearly full of water. They reported the crew of the “Nellie” all safe on the rock but the boat keel up against the wall. The rocks were so steep that we could not get back to them and we felt much anxiety for them. The “General” started up stream, swam to a little island, then to the main land, but could not reach them. We repaired damage on our own boat and stood ready to save all possible should the “Nellie” go to pieces. I am indebted to her crew for the particulars of the accident. In trying to avoid the rock the current caught them and drove the boat broadside against the cliffs on the right. She capsized just as Bishop jumped with the line. All hands made the rock safely, but lost 2 oars, one of which “Andy” picked up a short distance below; the other we found in an eddy at dinner station. A compass and camp kettle [were lost,] both of which went to the bottom. They soon righted and found a hole through the boat, on starboard, in stern standing room. Repaired damage, got out their extra oars and came down. We stood in the water to catch them and prevent their going over the rapid below.9 Soon started out down the rapids. Landed for dinner on right bank at 11 A.M. Pulled out at 2 P.M.; ran several rapids and pulled up near the head of a bad one, decided to pull across the stream. We went over all right, but barely saving ourselves. The “Nellie” came in like a shot. Cap threw me the line and sprang to help hold her in water neck deep. “Canonita” dropped in just below, the boys catching her. Unloaded the “Emma.” I stood in the boat and the boys let us down about 20 rods. Loaded and let down about ¼ mile. Decided not to unload the other boats so we let them down, getting in with the last just [at] dark, and camped on the same spot that the party of 1869 occupied, having been 3 hours in making little more than a quarter of a mile. Wet all day. Built a roaring fire, dried clothing and went to bed to enjoy the best sleep of the trip so far. Ran —— miles.

Saturday, June 3rd. Did not break camp. Bishop and self climbed a hill 1500 feet high in rear of camp. Back at 2 P.M., then did copying and mended clothing. Slept again—among the pines with the roar of the river rushing over the rocks sounding in our ears. Find by climbing the hills that their tops are the level of the country and that the river has cut its way down

9Thompson, Steward and Bishop, who with Richardson manned the “Nellie,” all wrote graphic descriptions of the near-calamity.

9See George Y. Bradley’s journal for June 2, 1869, Utah Historical Quarterly. 1947, vol. XV, pp. 33, 34. The 1871 expedition took two more days to make the same distance.
through them. Many of the hills are covered with grass and flowers, and quite well timbered. The hills are gradually disappearing and eventually the same power that formed them will dissolve them. How long this will be no one can tell, but must be millions of years.

**Sunday, June 4th.** Broke camp at 8 A.M. Let down by line about 20 rods through a bad rapid. Pulled out from there, ran a small rapid, then another, then through still water a little way, and pulled to shore on right bank just above a large rock in the middle of the stream. Decided to run through right channel. Went through all right, and made a strong pull for left bank at head of another rapid. Just missed being carried over. Let down a short distance by line—then ran about a mile and made Camp No. 11—on left bank at 11:30 A.M. in a grove of pines. Steward made a Geological section. Bish and self got some points on Topography. Wonder if any of my friends are thinking of me this peaceful Sabbath day. Have thought of the difference between their situation and ours. They peacefully worshiping—we wet and tired, running through waves that look as though they would overwhelm us. But these troubles are forgotten in the cheerful blaze of the camp fires, while the time is spent in necessary work, or listening to the reading of some poem, of which we have several volumes. Just above camp we found a boat tied to a tree with oars still on, both nearly covered with sand; supposed to have been abandoned by a party of miners who started down the river 2 years ago and broke up near here, taking to the hills, after loosing [sic] one man by drowning. [Word not legible] 3½ miles.

**Monday, June 5th.** Break camp at 7:40—run something more than a mile through comparatively smooth water and stopped on right bank for Beaman to take some pictures; 2 little creeks come tumbling down from the mountains, water very cold. Named the first “Cactus,” the other “Francis.” Started again at 2 P.M., and reached Ashley Falls at 3:10. Pulled all the things around over a bad trail among the rocks. Lifted the “Emma” out; carried her over the rocks to the foot of the fall, let her down into the water and brought her to land or rather rocks. Concluded to risk the “Canonita,” fastened an extra line to the stern ring; all

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12Rather, they encamped on an island, as Major Powell, Clem Powell, and Beaman all remark.
13See Mr. Kelly’s note on this party, p. 268.
14Powell writes: “Ran down over rapid river to point where two creeks come in and stopped for photos. Got good views on both creeks. Francis Creek first; Cactus below—(Beaman has these names reversed).”

Apparently Jones had the names reversed also. The first is today called Trail Creek, the second Allen Creek.
hands stood by to let her down. When she struck the fall and
the stern line was cast loose, she shot through like lightning,
careened, filled, jerked the line through my hands, entangled in
Fred's feet, and came near drawing him into the water. Cap
fastened line around the rocks and brought her up. She got 2
hard knocks, and it was thought best not to risk the other boat,
so she was lifted out, carried around, safely launched, and our
boats floated below the fall. By this time night had come. So
we took supper, went back above the fall, dug into the bank
among the rocks, fixed our beds, built a fire and prepared to be
comfortable. There were plenty of pine and Cedar limbs by the
light of which this was written. For half a mile above the fall
the river is quiet as if preparing for the leap. At the head it is
divided into 2 streams by a rock of 50 or 60 tons weight
that has fallen into the stream. The water on the right falls
almost vertically about 4 feet, strikes against rocks, and again
leaps 4 or 5 feet breaking into foam, throwing the spray
to the height of several feet. The stream on the left falls about
the same distance but is less broken over both precipices. The
river is full of sunken rocks, and nearly precipitous cliffs rise on
each side to near 400 feet, composed of Red Sandstone. The roar
of the falls can be heard for nearly a mile above. The course of
the river here is nearly east, and the rays of the setting sun formed
a beautiful rainbow at the lower end of the rock in the middle of
the stream. Our Photographer took several views of the river
and falls too just at the time of making the portage. These
falls although not so grand as many in our land, deserve much
more full and better description than I am capable of giving. Have
just returned to the fire and after getting a view by moonlight,
made the remark that the sight was worth a journey across
the continent. Why people have such an anxiety to visit the
scenes of Italy, and wander among the ruins of pagan Rome in
preference to seeing the sights of our own land is a wonder to
me. * Well I am tired and sleepy, so think best to lock the door,
draw the curtains and seek repose. Good night. Ran 2-7/8 miles.
Camp No. 12.

Tuesday, June 6th. An accurate measurement of the
fall this morning shows it to [be] 8.10 feet. Loaded and
pulled out. Ran about 2 miles and stopped at mouth
of snow creek for pictures. Left the "Canonita" and ran ahead
past Cliff [Cart] Creek on right, ran 3 rapids and landed on
left bank for dinner at 11:30 A.M. Started again at 1:45 P.M.
Ran through still water for half a mile, then rapids for 2 1/2 miles
which brought us into Red Cañon Park where we camped on

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*This is a viewpoint now much in favor in Utah.
right bank at 4 P.M. under 2 large pine trees; unloaded the boats and examined the rations, found the meat spoiling in the rubber sacks, but some things all right. Made preparations for climbing the mountains next morning. Ashley [?] Creek comes in on right and Plateau [?] on left, both a short distance above camp. Ran 8 miles. Camp No. 13.

Wednesday, June 7th, 1871. The Major, Thompson, Steward, Bishop and Clem, started for the highest mountain in sight on camp side of river. I crossed the stream & struck out up the mountain. After an hour’s climb, found another peak, above, and so kept on until 5 miles were passed, when the highest peak within reach was climbed. To the north was a beautiful valley, on the opposite side of which was a range of hills with some snow. To the southwest the snow-covered Uintahs could be seen, from which a snow range stretched to the northwest to beyond Flaming Gorge. After getting all the points in sight started down to the southeast. After going down about half a mile, found the head of a little creek in a bunch of willows, fed from a bank of snow, and there I sat down on a snow bank, and ate my fill of pure delicious snow. Again started, the creek flowing through a beautiful plateau, and the bank lined with cottonwoods & willows. Soon a noble deer sprang up at which a shot was fired, wounding him in the neck. Followed him until I found that if the pursuit was carried further, night would overtake me among the hills minus a coat, so gave up the chase and started down again. The plateau spreads out for 2 miles treeless, and covered with luxuriant grass, over which the deer and elk roam almost unmolested. Followed the creek clear down to the river through the gorges and got into camp about 4 P.M., very tired and hungry, having eaten nothing since breakfast and traveled all day. In a short time the rest of the party came in and reported having climbed a mountain over 3000 feet high which was named Mount Selena in honor of Bishop’s sweethearts. All so tired that very early camp was quiet.

Thursday, June 8th. Started at 8 A.M., ran rapidly through fast water, ran through Red Cañon to Brown’s Park where we pulled up on left bank just above 3 covered wagons, the first signs of civilization for near 3 weeks. Messrs. Har[r]ell were camped here with a drove of 2200 cattle, which were driven from Texas last year, wintered here on grass and will soon start for California. Camped near them and worked all the rest of the day on maps, records, &c., to be sent to Salt Lake for safe keeping. The opportunity is also being improved in writing letters and around our camp-fire tonight the boys are busy with paper and pencil and I will close this and follow their example. Some
Friday, June 9th. Spent morning in transcribing records, &c. In afternoon Steward and Clem went out for Geology. I went to the N. W., climbed Red Mountain and took bearings of several points, then went down the slope to Red Creek, then to camp which was reached a little before 9 P.M. Was very tired, had long walk, and hard climb. Ate my supper and went straight to bed. Richardson made arrangements today to leave us, and return home. Assigned cause poor health. We have made arrangements with Harrell Brothers to carry our mail to Green River City, telegraph to Salt Lake for mail and meet us again at the Cañon of Lodore.

Saturday, June 10th. Spent the day in finishing maps, records, &c., writing letters and preparing things for an early start in morning. Took observations for latitude, longitude, and time. Saw the herders lasso and kill a beef. They catch their horses by surrounding them, throwing the lariat over the heads of those wanted. This is a beautiful valley. Luxuriant meadows stretch on either side of the river to the foothills, then gently rolling to the mountains from 3/4 of a mile to 1 1/2 miles. This is a splendid country. The grand mountains that lift into the skies their towering summits, many of them covered with eternal snow, the beautiful valleys, crystal brooks, grand plateaus, noble trees, huge rocks, and all the varied mountain scenery, make deep impressions on the minds of the thoughtful, and give one broad ideas of the wonderful world in which we live; remind us that nature's works are on a grander scale than the puny creations of man. As I have stood on the summit of some towering mountain and surveyed the scene spread before me, [I] have felt the utter impossibility of expressing the thoughts that would rise, and as these wonderful works of nature were in view have felt how great the power that formed them, how much above human comprehension He who set in motion the wonderful machinery of the universe. No matter how long these hills may have been forming, no matter what the forces that caused these massive rocks to assume their present form, no matter how long it may have been since this whole country was covered with water, no difference if man cannot reconcile the Mosaic account of creation with the

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Powell’s journal entry for this day reads:

Came down to Crist Hillman’s cabin in Brown’s Park where I camped twice before. Once when Emma was with me [in 1868]. After dinner Thompson and I went out among the rocks. Boys at work in camp on notes, maps, packing [word illegible] photos, etc. to be sent to Green River City. Camp No. 14.

Next day, June 9, his last journal entry for this part of the voyage reads:

"Still at Camp No. 14 preparing to send out our extras, finishing up work, etc."
Geological account, there is, there must be a power higher than nature, that controls her works and I try to look through nature up to nature's God.

When I reflect too, that this is my own country, that it is indeed the land of the free, that no slave breathes within its broad expanse, that no tyrant bears rule within its limits, I feel proud to look around and say, "This is my own, my native land." The words, "I love thy rocks and hills, thy thousand bright and gushing rills," have to me a new, a wider, higher meaning than ever before.

**Sunday, June 11th.** This morning Richardson bid us goodbye. Although he has not made himself very agreeable to most of the party, I felt sorry to see him leave, but it is undoubtedly best for him. He could hardly undergo the hardships that are before us. We watched him ride away, and I at least, felt that perhaps we were seeing the last of him. Broke camp at 8:5 [8:05?] ran through beautiful scenery and quiet water about 6 miles to Swallow Cañon, which is about 1½ miles long, and in which we stopped for dinner under the cliffs, then on into very quiet water, where the river spreads out very wide, and had a splendid run of 15 miles and camped at 2:50 P.M. on right bank on a broad plateau under some big cottonwoods, the finest camp yet found on the trip. The cañon passed today is not bad. Met no adventure except just before landing; where the river is about ¼ miles wide the boats all got aground on a sand bar but were got off without much trouble. Made 15 miles. The days are getting warm, and the nights so that one can sleep without freezing.

**Monday, June 12th.** This morning Beaman took a view of camp, then Thompson went on the mountains back of camp while Major, Steward and self crossed the river, and after a pleasant walk of an hour over fine meadows covered with cattle reached the foothills and began the ascent. First we found low hill composed of white post tertiary shale of recent formation, then red sandstone gradually rising into a broken mountain chain. The rocks all dipping a little west of north. Climbed until noon without reaching the summit, sat down to rest and eat dinner under a piñon pine, then climbed again. At last reached the highest point, rested a while, concluded to leave most of our things while we went west along the summit to the cañon of Beaver Creek. About 2 P.M. stopped, made observations and about 4 P.M. started down very tired. At 5:30 reached a small stream coming from the snow, got the first fresh water since morning, ate a lunch, and went ahead down the gulch. Reached camp at 8 P.M. Saw again this day the Uintah snow range, and was above some patches on the mountain where we were, but did not
reach any. Saw a deer, an antelope, and some grouse, but got no shots. The view was grand but not equal to some I have had, on account of the smoke that [over]hung mountain and valley. Heard the first thunder on the trip.

**Tuesday, June 13th.** Broke camp at 8 A.M. and floated quietly down a broad, quiet river, studded with beautiful islands. The shores fringed with willows and cottonwood groves, a slow current, the bank stretching away into green meadows anon broken by low hills on either hand. The 3 boats were brought side by side, lashed together, and we dropped down with the current viewing the magnificent scenery holding pleasant converse, and listening to the reading of Scott’s poem “The Lady of the Lake.” Halted at 11:30 for dinner on left bank in a grove near some cabins. Started again at 1 P.M. The river growing narrower and deeper. Camped at 1:30 on left bank under some box elder trees, at the Iron Gate of Lodore. Here we found the first mosquitoes, and from the way they bit, think it probable that they do not often have the privilege of a feast off white folks. The brush along the river bank seemed fairly alive with snakes. This and the mosquitoes induced us to climb the rocks about a hundred feet where we had a good night’s rest. Some thunder and a little rain. Camp No. 16. Ran 12½ miles.

**Wednesday, June 14th.** This morning Steward and Fred took 2 days’ rations, a pair of blankets, their guns and canteens, and struck out on the back track. We will not break camp until mail comes. Spent the morning in taking & working observations, copying notes, maps, &c. In afternoon Major, Prof., Beaman & Clem, climbed the left pillar of the Gate of Lodore. Took Barometrical observations, time, &c., while they were gone. The cañon at the head of which we are is 20 miles long, full of bad rapids. Took the party of 1869 (25) days to pass. Some 10 miles from the head the “No Name” was wrecked and lost. The water is rapidly rising, and we hope to go through easier and quicker than they did, and without losing any boat, but of course cannot tell. Again slept on the cliff.

**Thursday, June 15th.** This morning Bishop started out to get the bearing of Vermilion Creek which comes in on the left about 3 miles above camp. The Major & myself providing ourselves with some biscuit & meat for rations, 2 canteens of water, one of coffee, one thermometer, one Aneroid, a field glass, a Cas-

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36 The diarists must often have guessed at the time. Thus on this day Clem Powell says they started at 7, Thompson at 7:30 and Jones at 8 A.M.
37 Used, Thompson says, by the Harrell brothers during the winter just past.
38 Jones is in error here. It took from June 8 to June 28 for the 1869 party to traverse the river from the Gate of Lodore to the mouth of the Duchesne. They emerged from Split Mountain Canyon June 26, 1869, making 18 days spent in the canyons.
cello [compass], a sack of books, and a revolver & knife, crossed the river and started for Turtle Back Mountain [?] distant some 4 miles. Began climbing immediately after crossing the river, passed over a small mountain, into a beautiful little valley, struck an old Indian trail, which we followed some distance. Then struck to the west, and commenced the ascent in earnest. Found the hill composed of red sandstone in cliffs or benches with almost perpendicular ascents of from 5 to 20 feet, the benches covered with red earth in which grow cedars, piñon pine, a kind of dwarf tree for which we have no name, somewhat resembling the Hawthorn, and a little like the crab tree. These in places grow very thick and made hard climbing. Sometimes were compelled to creep among them, and the wild currant shrubs, vines & briers that grow in great profusion. There are also thousands of cacti with red and pale yellow flowers, mountain lillies, a species of blue-bell and many other flowers & shrubs unfamiliar to me. At 12 M. stopped on a bench of rock, ate dinner, rested awhile, then pushed on. From our dinner station the valley of Brown's Creek [Browns Park], presented a beautiful appearance; the river winding among the lovely groves, down to the entrance of the cañon. The whole valley was once undoubtedly the bed for a lake, before the water forced its way through the mountain, and the soil was formed underneath its wave. How many thousands of years ago this was cannot be told but must have been many more than the generally received opinion of the age of the world. To resume: About 2 o'clock we reached a point where some observations could be made, then travelled around among the trees, and finally climbed a dead pine, from which we could see a beautiful valley to the southwest, the cliffs of Bear [Yampa] River southeast, the cañon of the Green, the gap through which the Vermilion comes to the N.E., while old Quien Hornet lifts its rugged head many miles away to the north. From our observations this is the highest mountain yet climbed on the trip. If this is so I have been higher than any other member of our party. At 4:20 P.M. took the last drink of water from our canteens, which had been carried since morning, and started down. From the indications it is evident that the mountain was very recently covered with snow from which little streams flowed down the sides, but now we searched in vain for a bank of snow, or a drop of water. Reached the river at 6:45 and once more had the luxury of a good drink. Found the boys all in camp and Steward & Fred gave an account of their trip. After eating their dinner the day of leaving camp concluded to cache their things and work until nearly night, then return and camp at the river. Soon used up the water with them, got very thirsty, and started down. Missed their cache, reached the river at 6 P.M., but were obliged to sleep without supper. Did not find their things until 10 A.M. today, having been about 22 hours
Friday, June 16th. This morning we pulled the boats across the stream for the purpose of allowing them to show in the picture Beaman wished to take of the gate of the cañon. Now at 11 A.M. I am seated on a cliff about 100 feet above the left bank of the river, under the shade of a dwarf cedar and one of our tent covers, looking down the stream for some $\frac{3}{4}$ of a mile, whose waters are as still and placid as the bosom of an unruffled lake, but anon there comes the murmur of the waters of the first rapid, borne on the breeze. The river here has cut its way through a mountain, the perpendicular sides of which rise on either hand forming the immense pillars of which [what] is not inappropriately called the “Iron Gate of Lodore.” The walls of crimson sandstone about 2000 feet high now tinged by the straggling beams of the sun, while at the base and up the sides wherever footing can be found, box elder, dwarf cedar, wild roses & willows maintain a slender foothold. “Abandon all hope ye who enter here,” were the words of an Omaha editor in 1869, but we are hopeful still.

Saturday, June 17th. After waiting until noon, our messenger came but brought no mail, all having been sent to Uintah from Salt Lake, so gave up all thought of hearing from friends for another month. Availed ourselves of the opportunity of sending letters out by these men who will reach Green River Station in 2 or 3 weeks. Broke camp at 3:30 P.M. and entered the dreaded Cañon of Lodore. From some cause I do not feel that fear [that] was anticipated. It seems to me that all will be well. Ran about half a mile, struck a rapid, then another. Just below this left the “Canonita” for Beaman to take a picture. Shortly after landed at the head of another rapid, but concluded to run it. Left the “Nellie” to wait for the other boat, and the “Emma” went ahead, through this and another, and pulled up at the head of a bad rapid, to wait for the other boats. They did not get in until so late that we decided to make Camp No. 17 on right bank under the cliff among some willows and take the rapid the first thing in the morning. Abrupt cliffs of crimson sandstone 2000 feet high on each side. Ran $1\frac{3}{8}$ miles. Slept with the roar of 2 rapids sounding in our ears. The cañon is so deep that but few of the stars can be seen.

Sunday, June 18th. Just below camp is [sic] a beautiful grotto was found, extending back several hundred feet, the walls nearly meeting above, the interior hollowed out and opening at the rear by a succession of immense steps to the top of the cliff, while a tiny streamlet of the purest water trickled down through
the rocks, whose moist sides were covered with pendulous moss, from which the water dripped in little streams. Huge masses of rock have fallen from the roof and sides in places nearly obstructing the passage. While sitting in this lovely place the sun first showed his face over the opposite cliff, and looking at the time found it was 8 A.M. Beaman took 4 views inside the place, which Steward, the discoverer, named "Winnie's Grotto." Broke camp at 10:30 A.M., and immediately ran a bad rapid, then through smooth water about ¾ of a mile, then a succession of rapids until 12 M., when we stopped for dinner on right bank. Pulled out again at 2:15 P.M., and ran through a number of rapids but none very bad until 4 P.M., when we camped on left bank on the same spot as the party of 2 years ago, at the head of Disaster Falls, a foaming, raging mass of water that pours through a narrow pass, without a foot of still water. Just above camp the river sinks straight down about a foot, then pours among rocks, on both sides of a small island where there is scarce a handful of earth, nothing but stone. Here the "No Name" of the first expedition [Powell, 1869] went to pieces and her crew floated some 20 rods, all much exhausted, and Goodwin [Frank Goodman] nearly drowned. We left the "Canonita" a short distance above for Beaman to get some views, and when they came down, got too far out and for a few moments it seemed that they must go over, but at last came in safe. These were moments of great anxiety. All stood ready to plunge in, for if the boat had touched the fall it would inevitably have been dashed to pieces among the rocks. Wet, tired and hungry, I thought how little like Sunday this seemed. How differently has this day been spent by friends at home. Well, sometime we may sometime again be in civilization. Who knows? 5¼ miles.

Monday, June 19th. Made a portage of about ¼ of a mile, letting the boat down by lines, through a sea of foaming waves; Steward and self standing in them with oars to prevent their being dashed to pieces against the rocks. Loaded, let down a short distance by lines, then a long portage, carrying the cargoes about half a mile over a rocky point with the thermometer at 90°. Before this was done the "General" called to dinner, which he had prepared on a point about half a mile from last night's camp, where we found a sack of flour left 2 years ago, from which he made biscuits, finding it but little injured. Here we found an oar on the rocks and another in the driftwood at the water's edge. After dinner went to work again, got the loads over and the "Emma" down to camp on a sandy beach. Steward had a bad fall in crossing down in the boat. As we ran over a rock she careened, pitching him over the side with his head under water, but we soon

\[\text{See Mr. Kelly's note on Disaster Falls, p. 273.}\]
righted and went ahead. The “Nellie” and “Canonita” were left above, all being too tired to attempt their passage. Made about a mile and again slept within sound of rapids. Camp and dinner station left bank. The river falls here 50 feet in half a mile.

**Tuesday, June 20th.** Brought down the 2 boats loaded and let down with lines about ¼ mile, then dinner, on left bank. Started at 2:30 P.M., ran 1⅓ miles almost all the way through rapids and made Camp No. 20 on right bank at 4 P.M. The banks of red sandstone 2500 ft. high, nearly vertical, on each side. Dip of the rocks southwest. Belong to the Devonian age. Slight thunder shower at noon camp.

**Wednesday, June 21st.** Broke camp 7:45 A.M., and let down a short distance with lines, which took all morning. Beaman took a number of views, as also at Disaster Falls. I received an injury in bringing the “Emma” around which nearly disabled me, but still kept at work. Started at 1 P.M., ran about ¼ mile, then let down with lines through 2 bad rapids which together are about ¾ of a mile, where I had another fall. Fred left his sketch book and Bishop his compass at the head of the first portage and had to climb the rocks after them. Started out again and ran rapids to the head of Triplet Falls, and camped on left bank among some box elders with the cliffs on each side about 2000 feet. Ran 2⅓ miles. Shipped more water today than ever before.

**Thursday, June 22nd.** This morning the Major, Prof. & Bishop started to climb out for observations hourly. Slight rain near noon. Beaman took views and Fred finished sketches. We are about half way through this cañon. The mountain party returned about 6 P.M. very tired, having climbed over 2500 feet above the river. Marked the cliffs on which they were—Dunn Cliff in honor of Wm. Dunn, one of the former party who started through the mountains and was killed by Indians. Toward night the sky became overcast with dark nimbus clouds; the thunder echoed and rolled among the mountain peaks and just at supper-time, for a few minutes, we had an old fashioned rain, the most water fell that has since we reached the Rocky Mountains, but still not near as much as frequently comes down in ten minutes in Illinois. One rock just above camp deserves particular notice. It rises with a gradual slope from the northeast to the height of 20 feet then as gradually slopes to the southwest. The side next the river is perpendicular, showing that it has been cut by the river, while the opposite is sloping, the whole being one solid mass unbroken by seam or scar. Estimate the weight to be 20 or 30 tons.

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38William Dunn, O. G. Howland, and Seneca Howland, members of the first Powell expedition, who left the boat party near the mouth of the Grand Canyon on August 28, 1869, were killed a few days later by the Shivwit Indians on the Shivwit Plateau.
Some of the boys saw on last Sunday\textsuperscript{a} 11 mountain sheep, but they quickly scaled the cliff where no man might follow. These are all the game yet seen in this cañon. Probably but little, if any other ever visited, and it is quite probable that its silence has not been broken by human voice, or its soil been pressed by human footsteps since the passage of the party of 1869. We have been picking up pieces of the wrecked boat and things abandoned by the party ever since leaving Disaster Falls. Yesterday a small vise, and a number of Putnam’s Monthly. Today an old ration sack, and a board from the bulk-head of the wreck.

\textbf{Friday, June 23rd.} Broke camp at 8 A.M., dropped down a few rods to the head of Triplet Falls then made 2 portages, ran about half a mile to the head of the worst place yet seen.\textsuperscript{a} The water boils and roars and foams, and there is scarce a foot of quiet river for a long distance. The boys named this “Hell’s Half Mile.” Made 2 portages with the “Emma” and got her and most of the cargo to the foot of the fall. Did not try the others. Made Camp No. 22 at head of the fall on left bank. Was very tired and slept sound. In letting down the “Emma” she capsized and went over the worst place keel up, but received no damage. Run 1\frac{1}{4} miles.

\textbf{Saturday, June 24th.} Started with the “Nellie” early and worked hard until 1 P.M. to get the 2 boats to the foot. Carried the cook’s things all the way over the side of the mountain, and found a good dinner awaiting us. This has been the hardest portage of the trip so far. The river falls about 30 feet in half a mile. Started out at 2:15 P.M. through rapid water. After running about a quarter of a mile in trying to avoid a rock on the right, came very near a huge one on the left. The “Nellie” following close stood poised a moment on the summit then plunged down into the wave, entirely under, but came up all right. Soon came to the head of another fall and all being very tired decided to make Camp No. 23 on right bank, at 3:30 P.M. Made 1\frac{3}{4} miles. At Camp No. 22 the red sandstone cliffs begin to be capped with gray and between the two colors is the transition rocks of a reddish greyish cast. The rocks still dip to the south, showing that we are still running toward their axis. This morning Beaman took several views of the falls and surrounding scenery, one of Emma Cliff. About 10 o’clock the camp fire broke out and when we reached the spot (being nearly a mile away) had hard work

\textsuperscript{a}Thompson and Steward saw the mountain sheep on Wednesday, the 21st, not on the previous Sunday.

\textsuperscript{a}Of the first fall here, Beaman says, “Nothing is visible save a white streak of foam, with here and there a formidable bowlder. This I name Bowlder Falls.” In a footnote he credits “Steward, who never swears!” with naming the entire rapid “Hell’s Half Mile.” Thompson also uses the term “Boulder Falls.”
to save our things. Left the whole place burning, the smoke visible over the mountain from this camp.

Sunday, June 25th. Waited until after dinner to get pictures of Leaping Brook crags, then let the boats down by line about a quarter and struck out through small rapid. Stopped at the mouth of Alcove Brook to explore it and get some pictures. This is the prettiest place we have yet found. The brook has its source in some springs far up the mountain side, and comes down with a fall of at least 500 feet to the mile, cutting its way through the rocks forming hundreds of beautiful alcoves. The base of the rocks is red sandstone, the top limestone, between them in places transition rock; in others one lies directly upon the other, while sometimes they are curiously intermixed, forming ribbon rocks. Our run from here to camp was through smooth water in which we hardly knew how to act. The red rocks have almost entirely disappeared and the white sandstone takes its place. Hills are getting lower with steeper sides. About half a mile above camp a vertical wall of white sandstone begins, averaging about 400 ft. in height. Made Camp No. 24 at 6 P.M. on left bank, at mouth of Bear [Yampa] River which comes from the east and is near the size of the Green here about 100 yards. It is a clear stream, is now quite low. Echo Park where we camped contains some 500 acres. Is surrounded by white cliffs among which are 3 distinct echoes. This is the end of Lodore Cañon, with its 16 miles of bad rapids, high mountains, 3 falls and 10 portages. From head to foot the fall is about 400 feet. It seems good to see the sun after 4 o'clock once more. He bid us good night at 5:30 P.M.

Monday, June 26th. Spent the day in duplicating maps, notes &c., taking observations and routine of camp life. Never find an idle moment.

Tuesday, June 27th. This morning we unloaded the "Emma" took the photographic instruments, 3 days' rations, blankets and guns, and the Major, Beaman, Hattan, Hillers and self started up the Yampa, or Bear. After pulling about a mile found the current too strong for us so ran to shore, got out the line and towed along the bank. At 11 A.M. stopped on left bank under the shadow of the cliff for dinner, after which Beaman took a picture. Started again rowing and towing until we came to a rapid where there is a small rocky island in middle of stream where all got into the water and lifted the boat over the rocks. Just as we thought we were safely over, the bow of the boat swung around and down she went over the fall, the General [Hattan] and Bismark [Hillers] only hold of the line. Fortunately for us but unfortunately for him the line caught around Hattan's leg; his foot became fastened between two rocks, and thus the boat was prevented from getting clear away. After 15 minutes hard work we succeeded in getting her up again stern first, when the water
proved too much for us and down she went again. Another struggle ensued, in which we were victorious, and safe above the rapid. Stopped for Beaman to take a view, then pulled across and made camp on right bank in a beautiful park. From the appearance this was a resort of the bear so we named it "Grizzly Park," and a beautiful spring near the river the same. This park represents a very singular piece of Topography. On either side are vertical cliff walls about 1000 ft. high while the ground in the park is nearly on a level, with the river gradually rising for about a mile, when it stretches into an immense plateau covered with large timber and luxuriant vegetation. On the opposite side a vertical wall of white sandstone rises 1500 feet with scarcely a break, its sides discolored by water impregnated with iron. Built a rousing fire, prepared and ate supper, dried clothing, listened to a canto of the "Lay of the Last Minstrel," then turned in, very tired, to enjoy a sound sleep. Made 4½ miles.

**Wednesday, June 28th.** Up early. After breakfast the Major and myself tried to climb out for observations, but found that we could not reach a point where we could see over the surrounding mountains. Returned to camp, and waited for Hattan and Beaman who were out hunting and did not get in until noon. After dinner started up stream, sometimes pulling the line and at sunset made camp on right bank under some box elder trees. Just room enough to sleep on the bank without rolling into the river. Made 3¾ miles. Just before reaching camp, saw a mountain sheep and lamb on left bank. Tried our guns but failed to hit, and away they scampered up the rocks. Shortly after saw a flock of 7 looking down at us from the top of a cliff 1000 ft. high, but knew it was of no use to try for them. Heavy thunder and slight rain at noon.

**Thursday, June 29th.** Started early. At 10 A.M. stopped on right bank, ate lunch and again tried to climb out but failed. Found a crag from which Beaman took some fine views. Named our landing "Maple Park," a spot of 2 or 3 acres covered with maple trees. Started again at high 12 and towed most of the time until 4 P.M., then camped on left bank in the middle of a fine park running about 2 miles along the shore of the river, with fine grass, & a few trees. Near the head a mile above camp a beautiful grove of cottonwoods and a stream from the mountains. The "General" explored both creek and park, so we gave his name to them. The side next the mountains is an abrupt cliff wall. Three lateral caños come in, but only through one could we get out. Today the gray sandstone has been cut by narrow ribbons of limestone, dipping nearly south, disappearing

But it was renamed "Steward Creek," after the graphic experience Steward and Clem Powell describe. Today it is called "Pool Creek."
just below camp. A short distance above the vermillion and gray are curiously blended. At supper made the discovery that the last of our flour was used, coffee gone, meat exhausted and the only thing left sugar. So we divided our supper into 3 portions, one for the present, one for morning, the other for dinner on the following day. Before another meal we must reach Camp on the Green. Turned in early for a hard day was before us. The night was the coldest since starting and all suffered. 3½ miles today.

Friday, June 30th. Rolled out at 4 in the morning and soon had breakfast, consisting of one biscuit each, syrup from the sugar and some fish which “Bismark” had caught the night before. At 5 the Major and self started to climb a bald mountain about 2 miles away, but on account of the steep walls of the cañon were obliged to make a long detour and climb out at the only pass for miles. Struck a trail which the game have made to reach the river, but saw none. Made good time and at 8 A.M. stood on the summit of the mountain. I had eaten heartily of the fish and walked rapidly without water and now was quite sick for an hour. Made our observations, contemplated the scenery for a few minutes and began the descent at 10 A.M. The country presents a very singular appearance. From the east the river comes winding down the cañon, which extends farther than we could see. At our feet it sweeps to the northwest following that general course to its mouth. The erosion has caused the surface of the mountains to slope to the south thus making the river run up hill as compared with the level of the country. To our left, looking nearly north, the vermillion sandstone cropped out, rounded into fantastic shapes by the action of the elements, appearing again far to the west, showing that the gray must have been eroded. To the south the country sloped in the same direction, while the valley of the White River could be seen. The descent was fatiguing but at 12:30 P.M. we reached camp, which had been moved a mile down stream where dinner of a biscuit and fish was waiting. I had enough of the fish so made a meal on my one cake, and at 1 P.M. we started down stream. The boys pulled with a will, for supper depended on reaching camp. Took Topography all the way down. Ran several rapids, made 3 portages by line, and reached camp at half past 4, finding Clem and Fred in possession, the rest having gone to climb a mountain. Supper was soon ready to which we did ample justice. The rest came in soon and the evening was spent in visiting. Tonight shows how much we really think of each other. The result of our 4 days’ trip is the exploration and mapping of the Yampa for 12 miles, 13 good pictures, and observations on many points that will be of much use.

Saturday, July 1st, [1871]. Beaman took some views. Spent the day in taking time observations, copying notes, making maps
& no one far from camp. The Major got poisoned by bugs on our recent trip and suffered much this day.

**Sunday, July 2nd.** This beautiful morning, after breakfast took an hour to myself, and spent the time reading and thinking of absent friends. Then assisted in taking time observations, copying, studying published maps, &c. Tomorrow morning we leave this camp and try Whirlpool Cañon. The water is rapidly falling which will probably make us hard work and add to the number of portages. Must mention our dinner today. It being Sunday the "General" gave us a splendid meal—warm biscuit, bean soup, boiled meat & fried ham, thickened gravy, apple sauce, sugar syrup, and as good tea as one need ever drink. Of course we are not suffering for rations. Some of the boys are calculating on a good time Tuesday; for my part expect we will spend the day making the first portage in Whirlpool [Canyon].

**Monday, July 3rd.** Broke camp at 7:50 A.M. and started south bearing a few points west. The Bear or Yampa united with the Green a few rods below camp, but makes but little difference in the size of the river. After running about half a mile the river makes a sudden turn nearly northwest around Echo [Steamboat] Rock and washes its west side for near a mile. The rock rises nearly vertical on both sides and at the north where it joins another mountain, but about 50 feet of wall separates the 2 channels of the river. Soon entered Whirlpool Cañon and commenced running rapids, but no very bad ones, so stopped beside a high rock and crews of the "Emma" and "Nellie" took the "Emma's" line and let the boat down around the rock with Major and self in, then we took the rope and fastened boat, climbed the rock, took the "Nellie's" rope and brought them around, then let down by line ½ mile and stopped on right bank for dinner and to wait for the "Canonita" that had remained at Echo Park for pictures. They came down about 2 P.M. when we pulled out, ran 3 rapids and camped on right bank at mouth of Brush Creek, up which Bishop and self went some 4 miles through a beautiful valley with steep mountains on both sides. About 5 miles up the creek is a singular mountain, the base of gray sandstone surmounted with white sandstone, the mountain rising more than 2000 feet. From its shape we named it "The State House." Got into camp at dark. Just before the boats got into camp we saw a flock of 11 mountain sheep. Fred and I went ashore and climbed after them but did not get a shot. Camp No. 25. Ran 7 miles.

\*\*\*After he discovered that the name "Brush Creek" had been applied to a stream that enters Green River near Jensen, Powell changed the name of Brush Creek to "Bishop Creek," in honor of Captain F. M. Bishop of his party. The stream is locally known as "Jones Hole Creek," the valley itself being named for S. V. Jones.\*\*\*
Tuesday, July 4th. Early in the morning Prof. and Beaman commenced firing a national salute in which they were soon joined by most of the camp. Soon after breakfast, leaving Fred in charge of the Kitchen, the "General," Prof. and self started up the valley to climb out. Found no place where we could get out until we had walked some 4 miles. Then began to climb. Went up steep rocks near 1000 feet when we came to a vertical rock where there was no chance of going higher except by climbing up the wall. Sent Thompson up who found a narrow ledge where we could stand. Crept along the shelf for a long distance where a single misstep would have sent us down a thousand feet. About 1 P.M. we reached our point of observation, spent 2 hours in getting Topography, ate our biscuit, drank some coffee brought from the camp, and started down. Thought we could shorten our return route, and find an easier descent down the dry bed of a creek. After descending a long way found where there was an abrupt fall of about 200 feet. Of course we could not get down there, so we were obliged to climb back and hunt our trail of the morning. Got into camp just after dark where we found a fine supper.

Wednesday, July 5th. Broke camp at 7:15 A.M., made 2 line portages, ran 3 bad rapids and got out of Whirlpool Cañon at 3 P.M. The cañon is 7½ miles long, has 6 bad rapids, a number of small ones, and we let down by line 3 times. The rest of the day [we] were passing through Island Parka a fine valley, wide river, and many islands. Made Camp No. 26 on right bank at head of Craggy Cañon [Split Mountain Canyon] at 5:30 P.M., having run 13 miles.

Thursday, July 6th. Did not break camp. I spent most of the day in making a pair of moccasins, having worn out my shoes. In the evening it was decided to exchange Fred for Bishop, take the "Emma" and run to the mouth of the Uintah to allow the Major to go up to the Agency.

Friday, July 7th. We started out at 5:10 A.M., the rest of the party starting at the same time across the river to climb a mountain carrying the Photographic instruments. We immediately ran into the cañon and found rapids. Soon commenced letting down by line and continued most of the way for a mile. Then ran several rapids and so continued until 11:20 when we stopped for dinner on right bank. Started again at 1:15 P.M. and kept on running rapids and letting down by line until 4 P.M., when we ran out of the cañon into the Uintah Valley. Craggy Cañon is 6½ miles long and has 5 bad rapids that we ran, and one fall, and 5 places where we let down with line. Pulled steadily until

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*Dellenbaugh says the Major had some difficulty deciding whether to call the valley "Island" or "Rainbow Park."*
6:20 P.M., when we made Camp No. 27 on left bank, having made 13½ miles. Camp seems lonely tonight, only 4 of us.

Saturday, July 8th. Up early, breakfast over broke camp at 7:50 A.M., and ran through a country broken by small hills but no mountains near, a wide winding river with a great number of shoals and sand bars, on which we were grounded 3 times. Stopping on right bank at 11:50 A.M. for dinner. Pulled out at 1:50 P.M., made in all day 31 miles and Camp No. 28 on right bank at 5:25 P.M. Bishop gave out this morning after pulling an hour and I took the bow oars, using them all the rest of the day except one hour and 10 minutes in the afternoon. We were all tired and slept sound. Killed 5 geese today and 3 yesterday, cooked one but it was too poor and tough to eat. Heavy rain at 2 P.M.

Sunday, July 9th. Broke camp at 7:40 A.M. and pulled until 6 P.M. getting aground twice, stopping on left bank about 2 P.M. for dinner, making Camp No. 29 on right bank under a huge cottonwood about ½ mile above the mouth of the Uintah [Duchesne] River. Ran 25 miles.

Monday, July 10th. Early this morning Major & Jack shouldered rations, blankets and a gun, and struck out for the Agency. We, „Bish” and self, unloaded the boat, pulled it up on the beach.

[Note to the text]
and calked the seams and fixed up things in general. The day seemed long and [we] were very lonely. At night especially we missed the rest of the party. On the cottonwood under which we were camped is cut the name of Ferrell—1841.

**Tuesday, July 11th.** Spent the day in fixing things to leave and at 4 P.M. ran down the Green to the mouth of the Uintah, then up that about half a mile, hid our boat under the willows along the bank and started for the Agency at 5:30 P.M. carrying our blankets, coats, 2 days' rations, sketch books, and guns. Struck a lodge pole train [trail ?] and travelled northwest, across the bottom of an old lake for 5 or 6 miles, then climbed a range of low hills, skirting the Uintah and travelled until nearly dark, then went down to the river on our left, made camp, cooked our supper, made our bed, lay down, talked about the country, Indians, &c. awhile, then went to sleep and rested well.

**Wednesday, July 12th.** Arose early; breakfast was soon disposed of, and march resumed. Travelled over the hills 4 or 5 miles, then the trail led into the river bottom and across the stream following the valley 7 or 8 miles, then climbed a range of rocky hills at the foot of which we stopped for dinner. Struck out again about noon and travelled until dark, both getting very tired, when we concluded to camp. Slept in the trail.

**Thursday, July 13th.** While getting breakfast ready an old Indian with his squaw rode up and immediately began begging. Supplied their wants as far as possible. Found that they belonged to the White River tribe who had been visiting and were now returning. Had 4 ponies, one of which the man bestrode carrying only his gun; another horse was packed with their lodge, the third the lady bestrode like a man, the fourth was loose. They soon left us, the man leading the way, the squaw driving the loose horse. We started again wading the stream and continued travelling northwest, crossing several small streams. In about half an

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28At the mouth of the Duchesne the "Emma Dean" remained 26 days and the "Canonita" and "Nellie Powell" 21 days—periods much longer than had been anticipated. The delay was caused by the difficulty of obtaining rations at the Uinta Indian Agency and especially because it was learned that arrangements made with Mormon "guides" in 1870 for transporting supplies to stations farther down the Green and the Colorado had not been carried out. Without these supplies it seemed foolhardy to attempt the traverse through formidable canyons to Lees Ferry. Accordingly the expedition remained for three weeks within easy reach of the Uinta Agency and then leisurely made its way to Gunnisons Crossing, where Powell had agreed to bring provisions and clothing and equipment needed for boat repairs. The long stop gave ample time for a scientific investigation of the local region and the lower 40 miles of the White River. The camp at the mouth of the Duchesne was at a crossing favored by the Indians and in frequent use by trappers, traders, and prospectors during the years preceding 1850, and later by travelers between Colorado and Utah. It is the site of the present tiny village of Ouray, where the long-used ferry has been replaced by a bridge.
hour came in sight of an inclosed field, and shortly afterward reached the Agency. Find 7 log buildings roofed with dirt, and one frame used as an office. Major Powell had started for Salt Lake early in the morning. Found "Jack" [Hillers] who gave us our letters, my own share being 10, but no papers. The Agent, Rev. J. J. Critchlow, had gone to Salt Lake taking with him 5 of the 11 employees. He left orders that no transportation be given our rations. So George Basor, the trader, was hired to land [bring] them. Spent the morning in reading letters, resting, and getting acquainted. Thos. Layton, J. L. Campbell, Martin Morgan and in fact all of the white men seemed glad to help us in every way. At noon sat down to a table, but scarcely knew how to act. In afternoon Cap did some copying and both enjoyed a good rest. Slept on the hay, refusing the offer of a bunk, preferring out doors.

Friday, July 14th. This morning Mr. Layton saddled 3 animals and accompanied us on a ride up the valley. Visited several of the Indian lodges, the farm and ruins of an old Moquis [Pueblo] town. The chief of this tribe is named Ta-Awa is more than 70 years old, has just married a wife, about 16. The finest looking Indian of the tribe is To-a-quan-av. He is very large and quite intelligent. Has a fine field of corn, wheat, potatoes, pumpkins, &c., which he cultivates well—and all give promise of good yield. The farming of the red men is very crude. But few of them will work. The government supports them. They have some very good ponies, a number of goats and a few cattle. The tribe numbers about 250 all told. The appropriation for their support this year is $30,000, aside from annuities of clothing and blankets. The old men of the tribe are quiet and peaceably disposed. The young ones chafe at restraint, think it an act of bravery to kill a defenseless white man, and glory in stealing horses. One of them, "Yank," called one of the best, showed me a wound in his hip received recently while trying to steal horses in Utah Valley. The medicine man of the tribe is quite good looking and intelligent for a savage. To-a-quan-av means Mountain Lion. He ought to be and will be some day, chief of the tribe. Returned to the quarters for dinner and spent the rest of the day there. In the afternoon San-i-kata and Joe, 2 young beaus came in. They were quite well dressed. Fancy leggins, new blankets, red handkerchiefs, and a great quantity of ornaments of brass and German silver. They are the fast youths of

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The Agency headquarters was located on the White Rocks River, near the site of Antoine Robidoux's Fort Wintey. The Uinta Basin had been set apart as an Indian reservation by President Abraham Lincoln on October 3, 1861.

Bishop renders the name "Tab-u"; Thompson "Toby." Usually spelled "Tabby" by the Mormons, it was translated as "The Sun." Bishop's spelling of the Indian name following is also variant—"To-quan-era."
The Agency is located between the Uintah and East Fork, on a small stream flowing into the latter. It is near the base of the Uintah Mountains, the general direction of which are east and west. The Wasatch range trend from northwest to southeast. The 2 ranges inclose the valley of the Uintah reaching to Green River. In the valley are Duchesne, Lake Fork, Deep Fork, East Fork, and several smaller streams all flowing into the Uintah which rises in the range of the same name, flows a general southeasterly course to the Green. It is about 60 miles in a straight line. The Agency is about 25 miles west of Green River, and near 40 miles southwest of the mouth of Uintah. There is a farm of about 25 acres under cultivation, on which are growing wheat, corn, potatoes, barley, oats, buckwheat, turnips &c., all of which look well. The Agency keeps 10 head of horses and mules, 30 or 40 working oxen, and a few cows. Pardo [Pardyn] Dodds the former Agent, lives here, keeps about 75 head of cattle, which he keeps on the reservation by permission of the Indians. He has built a small log house on the east side of the Green 2 miles above the mouth of the White River on the reservation of that tribe and intends moving there when the Uintahs get tired of him. In the evening while sitting in front of the blacksmith shop a gun was fired in the woods down the road, the ball whistling close by us, followed by a yell. Soon more shots and yells. As the Arapahoes had threatened an attack we seized our guns and prepared for action. Soon 3 Indians passed going up the Valley to the camp. Their arrival was greeted by shouts which continued at intervals nearly all night. “Bismarck” and I concluded to move our bed within doors and slept for the first and only night since May 20th under a roof.

Saturday, July 15th. This morning we learned that the commotion was caused by the arrival of some of the White River tribe on a visit, who having procured some “Fire water” were rather careless of their actions. They bring good news for this tribe. Washington (who they believe is yet alive) has sent them all things. Poor simple people. Someone has been deluding them. After breakfast Cap and self started on the return trip. We were provided with a pony, and mule through the kindness of Messrs. Layton & Campbell, on which the journey was easily performed before sunset. Found the other boats and crews who had arrived the evening before. It seemed good to meet them after a separation of 9 days. We brought their letters and for the next hour they were busy in reading news from absent friends. None later than June 14th so we are still without recent news from the outside world. We sat until late recounting adventures since we parted. They came through without accident. Had some serious times and some laughable ones. Saw several Indians. Found a great

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Below, Paiute children of the Kai-vav-its or Kaibab band. Photographed by J. K. Hillers.

Above, a lodge of the Uinta Indians, photographed by J. K. Hillers about 1873.
number of fossils and took pictures of a number of scenes. Just at the lower end of Craggy Cañon they found some pictures on the rocks in the form of men, buffaloes, and other animals, evidently the work of some of the Indian tribes. Beaman took views of them and Fred sketched them. Prof. and Beaman will return to the Agency Monday and we remain here a week or two."

Sunday, July 16th. This morning we moved camp across the river and took possession of a small log house, without floor or windows, belonging to Pardo Dobbs, an Indian trader, who has obtained permission of the White River Utes to build here. Fixed tables and seats with some loose boards and began duplicating maps, notes, sketches, writing letters &c., to be sent out by Basor the settler [sutler] of the Agency, who will be down with our rations about Thursday or Friday. Thermometer 103° at 2 P.M.

Monday, July 17th. This afternoon Thompson and Beaman started for the Agency.

Tuesday, July 18th. Still at the shanty on the east side of the Green just above the mouth of the Uintah, and about a mile and a half above the mouth of the White. Heavy thunder and black clouds in the P.M., and slight rain at dark.

[Wednesday, July 19th. No entry.]

On returning to the mouth of the Duchesne, Jones and Bishop found the other members of the expedition in camp. Under the instructions they had brought from Powell, Thompson and Beaman then set out for the Agency, the former to see about rations to be brought down by George Basor, the latter to take pictures of the Indians. Thompson shared Jones's view of conditions at the Agency, thinking it as then conducted "a cheat, a swindle." Beaman, however, found an amusing side to their assignment. He writes:

Superstitious as they all are, it was some time before I could persuade any of them to sit for a picture. It chanced, however, that one of their most famous braves, Antro by name, had had his likeness taken at Salt Lake City a few weeks before, and, as the operation had not made him "heap sick," some of his brothers were persuaded to be photographed. Tabba, the head chief of the tribe, sat to prove his courage and the experiment, and, as it did not seem to hurt him any, several others consented to make the trial.

The next day but one I went up into their village to get some views of their wigwams, and found that they had given me the somewhat mortifying sobriquet "Koch Weno"—"no good medicine-man." At the door of the first hut we were met by an old Indian and his squaw, and warned away. They themselves did not want to die, and several of their ponies were "heap sick" already. The interpreter, Mr. Basor, tried to explain away their fears, but to no purpose, and we proceeded to the lodge of the chief, whom after the lapse of 48 hours we found as skeptical as the rest. He finally took the interpreter aside, and after being gravely assured that the "thing" would not "go off," nor put the "evil eye" on them, permitted me to take the desired views. This was a great favor, according to the interpreter, who told me that every misfortune attending them for the next six months, would be attributed to our visit.
Thursday, July 20th. Saw 4 antelope about a mile away and Fred, Andy & self tried to get them but failed. Steward is getting very low spirited, and is quite unwell. (Am afraid his health will fail, and he be obliged to go home.) Heavy thunder and sharp lightning in afternoon, and light shower in the night. We are getting tired of this camp.

Friday, July 21st. Very hot all morning. Basor and "Bismark" came at 11:30 A.M. with rations. They were since yesterday morning coming from the Agency. Brought a wagon and 4 horses. After dinner Basor started back taking out some things we wish to leave, also our letters which numbered 20 or more. Black clouds came up early in the afternoon, and considerable rain fell, accompanied with heavy thunder and sharp lightning. Soon after lying down it commenced raining and continued near half the night. Some of the boys went under shelter of the roof, but the "General" and myself drawing our rubbers up weathered it. Got a little wet.

Saturday, July 22nd. Another day passed slowly by. Heavy thunder and a very slight rain. Wish it were possible for me to paint or describe the beauty of sunset here. As the God of the day approaches the west, its gates are lighted with gold and pearl in honor of his coming. The distant clouds of deepest blue are tinged with purple, and the whole western horizon reflects his glow. The white clouds that rise from beyond the mountains form a background more splendid than can be described. Slowly the sun sinks, now the brightness of his face is veiled in a passing cloud. Anon he beams full upon the earth he is leaving to darkness. Now half his disk is hid. Now with sudden plunge he is gone behind the Uintahs. His beams still illumine the horizon above us, but the light is growing fainter, and still fainter. It has disappeared and night and the silence of the wilderness are around us.

Sunday, July 23rd. This morning the boys came out with clean shirts, the effect of soap, new white canvas pants, and hands and face polished. Not to be out of fashion my own costume was made to conform. In the afternoon a tornado passed from the northwest filling eyes with dust and covering everything exposed. Considerable thunder during the day. Everyone took a holiday. No work done.

Monday, July 24th. This morning Steward, Bishop and Fred shouldered blankets, guns, and 4 or 5 days’ rations, and started up White River. They will attempt to reach Goblin City—a curious collection of rocks. Andy, Clem, Bismark, and self remained at camp. Jack is busy making moccasins. Says he intends giving each of the party a pair. Heavy thunder, but no rain.

Tuesday, July 25th. Last night seemed lonely, only 4 [of us] where usually there are 10. Spent the day in copying. Clem cleaned glass and prepared things for work when we again
start. Jack still making shoes. Andy cooking. High wind, considerable thunder in afternoon. Slight shower at dark. The barometer shows that we have descended about 1500 feet on the trip. Distance from head of Brown’s Park to Gate of Lodore 27½ miles including Swallow Canon near center 2 miles long. From Gate of Lodore to Echo Park 16 miles. From Echo Park to Island Park 11¾ miles. Whirlpool Canon 8¾ miles. It has 8 rapids of which I made note. In it we made 3 line portages. Island Park is 8¼ miles reaching from Whirlpool to Craggy canons. Craggy Canon is 6½ miles long. Has 11 rapids and 5 line portages, one near a mile long. From Craggy Canon to the mouth of the Uintah 56½ miles. Total distance from head of Brown’s Park to Mouth of Uintah 127 miles. No. of canons 4. Length of canons 33 miles. No. of rapids run [ ]. No. of portages made 7. No. of times boats and cargoes were let down by lines [ ]. Thunder shower in afternoon and very little rain in the night.

Wednesday, July 26th. Rain all around but none in camp until night, then rain.

Thursday, July 27th. Dark clouds in every direction. At half past two a thunder storm passed over us from southwest to northeast. The rain fell in torrents, leaving pools of water in its track, but within 30 minutes the sandy soil had absorbed most of the moisture. Steward, Bishop & Fred came in at dark. Report having gone up the White some 40 miles, found Goblin City but no marked change in Geology. Made a raft of 7 Cottonwood trees, and came down the river a day and a half, running a few small rapids.

[Friday, July 28th. No entry.]

Saturday, July 29th. We spent the day in finding fault with each other. At sunset we heard “Hello” across the river. All ran down the bank and saw an Indian watering his horse who called “Americans coming.” Two boats were launched and we were soon over the stream where we met Thompson and Beaman who had rode from the Agency since morning. They brought letters for all—(mine were 4 and a few papers, one for me the [Lacon, Ill.] Journal of July 1st. Hamblin (the man employed to bring in rations) returned to Salt Lake just after Major Powell left for Uintah, sent a messenger after him to say that he could find no trail in to the “Dirty Devil.” The Major had already sent Dodds* to explore a route. Now he hired at Heber City an old Indian interpreter, [Marion J.] Shelton, and came to Uintah Agency, hired an Indian “Yank” who claims to have been there and knows a

*Captain Pardyn Dodds, U. S. Army, was stationed at “Fort Uintah,” the Uinta Indian Agency. On finding that the mouth of the Dirty Devil was inaccessible by pack train, he seems to have explored other possible routes to the Green and Colorado rivers. He led the company that brought provisions to the river party at the Crossing of the Fathers.
trail, bought a horse and mule, and this morning started for Fillmore City to see if a way can be found to get rations to us at the Dirty [Devil] Creek. If he succeeds will meet us at the mouth of White [Price River], that comes in from the west about 100 miles this side. If they cannot get in at that place, they will go on the old Spanish trail that crosses a short distance below the mouth of the San Juan, where we will be obliged to run before getting rations. So we will not see the Major before the first of September at best, and perhaps not until the last.

The Indian who came down is a curious specimen. He seems to think that white men come here to bring the natives all the things they want. He was an importunate beggar. Until late we sat reading letters and papers, the latest July 12th.

A [copy of the] Buffalo Express came containing a letter from Dellenbaugh sent from Green River City. A Chicago Tribune with a letter from W. C. Powell sent from Brown’s Park. I was requested to read it and was interrupted many times with such exclamations as “what a lie,” “why Clem, how could you write such stuff,” &c. Clem indignantly denied having sent any such letter, says that he wrote his brother an account of the trip with permission to have it published in the Naperville paper, but no such as that. He claims that Richardson has visited his brother and to his imaginative mind is due the coloring. My own letter from the Gate of Lodore was pronounced “wano” [bueno—good] which of course made me feel very comfortable.

Sunday, July 30th. This morning the red man started home taking the 3 horses and our pack mule. For a wonder we all rested. Seemed the most like Sunday of any day yet spent on the trip. About 3 P.M. as some of the boys were crossing the Green to get clear water from the Uintah they saw on the bank a young Indian and his bride (the same that they ferried over on their way down) who they brought over to camp. He claimed to be the son of Douglass, the chief of the White River tribe. Prof. Thompson says he saw them at the Uintah Agency, and heard this story. The girl had promised to marry another man, but eloped with Jack Douglass. The discarded lover is in pursuit of the pair threatening death to the groom if caught. Jack acts as though afraid, while the face of his squaw looks troubled. She is young and quite good looking. Both well dressed. After supper they recrossed the river, where their ponies were, to spend the night. Weather quite cool at night.

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"The reference to Fillmore City is doubtless an error. Other accounts state that supplies were obtained at Fairview and Manti.

"Jones may have had in mind the Crossing of the Fathers, or perhaps a chimerial crossing of the Colorado vaguely indicated on maps previous to Powell's explorations."
Monday, July 31st. Steward and Fred started across the White to be gone 2 days. Bishop and self began again on maps. Clem & Jack ferried our Indians over to camp. They will probably remain near as long as we do, at least as long as we feed them. Andy being unwell the boys are taking turns in cooking. About 4 P.M. Steward and Fred came in. Steward "played out." Employed Douglass' squaw to make me a pair of moccasins.

Tuesday, August 1st, [1871]. This morning upon crossing the river found the moccasins finished and also found that the makers had appropriated enough of our deer skin to make a pair for themselves. When it was taken away the Indian became very angry but was pacified upon receiving the promised dollar; came over to camp. Spent the most of the day, allowed Beaman to take some pictures of their lovely persons, recrossed in the afternoon and soon after started off in a westerly direction.

[Wednesday and Thursday, August 2nd and 3rd. No entry.]

Friday, August 4th. Have everything packed ready for an early start in the morning. Have overhauled the boats, calked and pitched the seams and made them water-tight. Have duplicated all maps, notes and observations, one copy to be carried in the "Emma" and one in the "Nellie." Have made observations here for latitude and longitude, surveyed and mapped the White and Uintah rivers, and looked at the same scenery until all are tired and anxious to be gone. The nights are getting cool and we hope hottest weather is passed.

Saturday, August 5th. Broke camp at 7:25 and again started on our journey. Passed the mouth of the Uintah at ½ mile, then a large island wooded, then the White River on left. The former stream is about 3 rods wide, 3 feet deep, water nearly clear. Comes from the Uintah Mountains, flows southeast. The White rises in the Rocky Mountains and flows in general southwest direction. At the mouth is about 2 rods wide, shallow, nearly clear and cold. After running 4 or 5 miles saw an Indian wickiup on right bank; pulled in found Jack Douglass and squaw, the former in all the glory of paint sitting in the shade, while Lizzie was drying venison and curing deer skins. Traded sugar to them for a few pieces of dried meat. Bid them good-bye, probably forever, pulled out again, soon ran aground; the boys jumped into the water pulled the boats over the bar and on we went. Ran aground again before noon. Stopped for dinner on right bank in a grove of cottonwoods just where the river makes a turn to the east, at 11:30 A.M. Thompson, Steward and self climbed the hills. Found no change in Topography or Geology. Started at 2:15 P.M. and ran until 5:25 P.M. Shooting at beaver (one of which Beaman killed, as also a badger) giving chase to 2 deer but getting neither; made Camp No. 33 on the east bank of a large island in the middle of the stream, where it runs nearly south, in a beautiful cottonwood grove,
but the soil, as at every other camp nearly, very sandy. Ran 16\frac{1}{4} miles. In 1869 they made the run 26 miles. The river wide, very low, full of sand bars, with a number of islands, and water very dirty. Considerable timber on the banks in the valley, which is bounded by gradually rising hills from 200 or 300 feet high, composed of disintegrated Tertiary shale on a bed of dark sandstone, sometimes discolored by iron, sometimes with thin strata of blue clay between. From the hills the country looks as desolate as any we have yet seen. On one [hill] climbed at noon we found 2 mounds of stone evidently marking the graves of some of the red men whose spirits had departed to the happy hunting grounds. General course of the river 7 degrees east of south.

**Sunday, August 6th.** This morning Andy was quite unwell, and Beaman too sick to sit up. After breakfast spent an hour in reading and writing up my journal. Then Prof., Steward, Hillers and I crossed the river and climbed the hills finding nothing but desolation. Not a green thing, even the cactus and sage bushes dying. Went up a small lateral canon, the loose shale giving beneath my feet. Hills about 500 feet high. Got back to camp about 11. Spent the rest of the day in making a map, reading &c. Men all well enough for supper.

**Monday, August 7th.** Broke Camp No. 25 [35]. General appearance of the country not much changed. The river runs in big bends. Hills broken, sometimes coming to the river, then running back forming parks near the stream. Some trees along the banks. River very low and full of sand bars, on which we were stuck several times. One of the boys shot a beaver. Stopped on right bank at 10:35 for dinner. Ran 7\frac{1}{2} miles. Thompson, Steward and Bishop climbed the hills before dinner. No marked change in Topography or Geology. Pulled out at 3 P.M. and ran down a fair stream, wide and shallow with a great many sand bars, on some of which we all got aground. A number of islands, some wooded but timber getting more scarce and wall higher, at camp near 600 or 700 feet, all of cretaceous shale belonging to the tertiary. The hills present a singular appearance. Look white at a distance; on nearer approach they show of all colors. Sometimes stained with iron, sometimes strata of blue, yellow or white clay intervene. Country more desolate. From Camp 33 a second terrace of hills arises to the height of 1000 or more feet. The boys climbed the same hill at noon that those of 1869 did. Made 16\frac{1}{2} miles and

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*For about 90 miles below the mouth of White River the valley of the Green River is relatively shallow and bordered by rocks of many colors which have been carved by minor canyons and gullies into low terraces, mesas, and innumerable picturesque erosion forms. The plant life is scant and specialized. Powell calls this stretch of river the "Terrace Canyons." Thompson remarks: 'I think it merits the term of 'Desolation.'" On modern maps the stream channel through the lower part of this barren, unfriendly country is shown as "Desolation Canyon," which terminates at the Brown Cliffs.*
camped on large island on left bank with a few cottonwood trees and some willows where the river runs southeast, then turns southwest. General course near south. According to the map of 1869, 28 miles. Prof. shot a beaver just before camping. Passed a stranded railroad tie that has floated from the bridge in Green River City, or farther.

**Tuesday, August 8th.** Fried some beaver steak for breakfast but found it rather tough. Broke camp at 7:45, ran about 1¼ miles getting aground once and stopped on an island to get some pictures. Decided to stay for dinner. Looked around, crossed to the main land, and hearing a familiar roar around the corner went down and found a small rapid. Worked on map until dinner. Had some of the beaver in soup, but all decided that it was not a success. Beaman got two good pictures. Started at 1 P.M. turned the corner, the walls coming quite close on both sides, and ran our first rapid in the Cañon of Desolation. Decided to call this the head of the cañon. Ran 2 miles, stopped on an island on left for the barometrical observation. Beaman found some fine views, which could only be taken in the morning, so made Camp No. 35 at 2 P.M., having run 3¾ miles. Passed another stranded tie. On the island are a few cottonwood and box elder trees, some willows, and quantity of briers [briars] and considerable driftwood. Prof. and self climbed out down the river. Found that the stream bends back almost upon itself. Just below the rapid run this afternoon a sharp ledge of rock divides the stream. Standing upon this we threw rocks into the river on both sides, the distance being not over 500 feet. The river today has run in quite large bends, general course 3° south of west. Rocks, light colored tertiary shale with strata of different colored intermingled. Gradually getting higher. In many places vertical to the water. Much broken by small lateral cañones and gulches. Opposite camp the wall is near 1000 feet. Country back very desolate. Entirely worthless. By map [of] 1869.

**Wednesday, August 9th.** This morning clouds covered the sky so that Beaman could not take the pictures as wanted so did not break camp. Employed ourselves in various ways. Finished the first map of the river and back country from mouth of Uintah to this point. The rest finished first copy of their work to date. Beaman, Clem, Fred, Bismark and Thompson carried the photographic things up the hills back of camp and left them there and crossed the river; found a small lateral cañon, and in afternoon he, Prof. and Clem went over to climb out. Came back in an hour or two reporting no chance of getting out, walls too steep and high. About 10 o'clock it commenced to rain and Fred and I stretched our [tar]paulin and crept under. Slight showers all day. Gloomy. Andy and Beaman taking medicine. Hillers has procured a book and spent the time today in writing up from the start. Believe each
member of the party is keeping a journal with the exception of Hattan.

**Thursday, August 10th, 1871.** Went up on the hills where Beaman took 7 pictures. Dinner at 11:30 A.M., and at 12:10 P.M., broke camp. Dropped down about a quarter of a mile, stopped to get a picture of a lateral cañon, and went ahead. The rocks getting steeper and higher. Came closer to the river which grows narrower. About 5 o'clock struck a small rapid. Made Camp No. 36 on left bank at 5:40 P.M. Made 10 miles. Prof. and self looked along the cañons to find a place to climb out in the morning. The rocks growing harder and darker. All belong to the Tertiary. We are getting deeper into the strata showing an upheaval and that we are travelling toward the axis. Some thin beds of clay shale of blue and green.

**Friday, August 11th.** This morning Thompson, Steward and Bishop climbed out at a small lateral cañon just above camp. After Beaman took some views, we moved 2 of the boats down a fourth of a mile to the mouth of another cañon on the left and stopped until after dinner. Beaman and Clem took some views, among them one of a large rock that shows its formation to have been in comparatively still water. About 11 o'clock the boys came back and reported the cliffs about 2500 feet high, rising back 800 or 1000 feet more and the walls at the top of the cañon about 5 miles apart. After dinner pulled out at 12:40 and ran through still water 2 miles where found a long line of rapids. Examined them and decided to run. The water being very low the rocks came close to the top but not far enough to be seen. Went through 2 rapids all right. The "Nellie" striking once but doing no damage. Near the foot of the third the "Nellie" struck a rock but went over. Steered the "Emma" a little more to the right but was obliged to run close to the same place to avoid another rock and struck on the same one. Hung until Jack jumped out and pushed us off. Made land close to the "Nellie," both boats all right. Beaman with the "Canonita" tried to run close to the left shore, struck one big rock, then another, the last broadside; stove a hole in the starboard standing room, and made land with the boat leaking badly. Took us an hour and half to repair damages. Pulled across the stream to look at another rapid. Then started down. The "Nell" struck twice, the "Emma" once; the boys jumped out and steadied the boats through. The "Canonita" struck and hung until pushed off. Ran a long way in water so shallow that the boats' keels were continually scraping. Then a mile or so through smooth water and made Camp No. 37 on left bank near some cottonwood trees, at the head of another rapid at 5 P.M., having made 4 5/10 miles. We were still cutting through the dark sandstone running down toward the axis. Slight ribbon beds of limestone and an occasional strata of blue or green shale
clay. The light-colored shale has nearly eroded from the top. General course one degree east of south.

**Saturday, August 12th, 1871.** Started at 7:35 A.M. and began by walking beside the boats most of the way for half a mile through shoal water, then ran a succession of small rapids for 2 miles farther, then a rapid at short distances until 11 A.M., when we stopped on left bank, having run 5 7/8 miles. After dinner, concluded to remain in camp until Monday. Hillers and Fred climbed the side of a mountain for the pitch of the red pine to use in calking the boats. Gone most of the afternoon. Reported the side of the mountain much broken and difficult to climb. We are still cutting deeper in the dark sandstone. River more narrow generally. Just opposite camp is a large sand bar which now at low water forms an island. At the narrowest part of the left hand channel which we ran is not more than 50 feet wide. A short distance below camp the river turns nearly southwest, running about southeast at camp and divides into 2 channels, the one we must take being full of rocks; looks very much like a line portage. General course today 23 degrees west of south. Camp No. 38.

**Sunday, August 13th.** This morning Prof., Steward and self climbed a mountain a short distance below camp. Reached it through a small valley covered with dead sage and grease weed bushes, and much cut by gulches. Went up a lateral cañon some distance then up a sharp ridge between 2 dry water courses. Found hard climbing. Passed over hard tertiary sandstone then clay shale. Soon struck cedars, then piñon pine, shortly red pine and fir—the first timber found on the mountains in this cañon. The mountain climbed is 2556 feet by barometrical measurement, which is the general height of the cañon walls, which are from 3/4 mile to a mile apart. Above the back of them rise higher mountains, much broken. The whole country very desolate. To the northwest we got a glimpse of the Uintah snow-covered mountains. To the southeast a huge column of smoke arose, probably from the country of the Cheviot [Shivwit] Utes. Took bearings on a high wooded mountain 12 or 15 miles down the cañon to be climbed when reached. Returned to camp to dinner, then tried an hour or two of rest. The rocks on the sides of the cañon walls are much honey-combed by the action of frost and water, showing the nodules were softer than the beds from which they have been eroded. In coming down the mountain found 2 springs of water, the first for more than a 100 miles. The rocks in this cañon so far all belong to the fresh water Tertiary period.

**Monday, August 14th, 1871.** Broke camp at 7:30 A.M. Ran a small rapid in the narrow left-hand channel, then through smooth water about a quarter of a mile, then where the river [turns?] short to the right or nearly southwest found a long shallow rapid.
Steered for the center, drifted down until we struck rocks, then jumped out and walked beside the boats (sometimes hanging on through deep water) for about half a mile, then smooth water for a mile and a half which brought us to another rapid. Ran it to find a bad one where we let down by line near a fourth of a mile on left bank, then rowed carefully along a short distance to the worst place in the cañon so far. Let the boats down by line on left bank just below this fall, which we named “Fret Water.” While the meal was being prepared Thompson and self went ahead for a look at the river. Found some bad rapids, but concluded to run them. Started at 2:45 P.M. and took one of the most exciting rides for half a mile, I ever experienced. Near the head is a smooth fall of 2 or 3 feet which upon passing we found to be rock on which our oars struck. The water being quite low, rock after rock was seen that could not be distinguished from shore. Among these we were compelled to run, winding along at the risk of striking every moment. Landed at the head of another rapid where we found it necessary to again let down by line. Beaman and Clem took the instruments and stopped in a narrow valley that extends from near dinner camp to below night camp, on the left, for pictures. Let the boats down about 1/8 of a mile, got in, ran rapids near a half mile farther and made Camp No. 39 on left bank under some dwarf cottonwoods. Ran 5 1/2 miles. Ran 8 rapids, walked beside the boats through 2 shallow ones, and made 2 line portages. Just below camp is swift water to another rapid that looks very much like a portage. The cañon walls today have been very much broken up, many places small valleys to the river. General height 1500 to 1800 feet. Width at top from 1/4 to a mile.

Friday, August 15th, 1871. Waited for pictures and did not start until 9:45, then ran a small rapid and through swift water to a fall where we let down by line about 1/4 of a mile. This fall is 6 or 7 feet and we named it “Five Point Fall,” from 5 mountains coming together near it. From this ran a rapid, then another to a place where the rocks made another line portage necessary. Stopped on left bank at 12:10 P.M. for dinner, and went ahead for a look. Through one rapid run this morning the water was so shallow that the keels scraped the bottom for near half a mile. Sometimes the boats would float, sometimes ground when we would jump out and push off. Pulled out at 2:30 P.M. and let down a long fourth of a mile, then in through quite rapid water to the head of another rapid where we again let down by line. Took the “Canonita” through first to allow the General to get supper. Isolated rocks extended so far into the stream that we could not walk along shore with the line so one waded out to
one rock, another to one below him, until 5 of us were stationed at different points. Two men clung to the boat, wading when they could when too deep [for] swimming. The first man on the rocks held the line until the boat reached the next, when he held to the next, and so through the rapid until it was thought safe to run when the crew manned the oars, dropped down a short distance and made Camp No. 40 on right bank. The "Emma" followed, Fred and myself bringing her in while Hillers assisted with the "Nellie." Footed up the log and found we had made 3½ miles. Camped at 5:20 P.M. Slept within sound of a rapid above and one below. Cañon walls about 1000 feet at camp. Much broken by small lateral cañons and gulches. From ½ to ¾ mile wide at top. General character of walls geologically Tertiary sandstone, with some strata of clay shale, all very easily eroded.

Wednesday, August 16th, 1871. Decided not to break camp. The boys fixed up some shelter tents on the sand and prepared to be as comfortable as possible. A few small cottonwood trees grow at this camp, but their shade was very small. The sun after climbing to the summit of the hills shines very hot. Prof. and I went down the river some 2 miles on left bank. Through a small valley covered with grease weed, sage brush, a few cedars, and cottonwoods. A great deal of white sand along the river bank. Found a rapid just below camp that we will try to run. Below that 2 portages, then a rapid that we could not approach near enough to decide what would be necessary. This gives us work enough for one day when we again start. Found Bismark and Sandy busy filling the seams of our boats with cotton and pitch. The other boats need the same treatment, especially the "Canonita." After dinner Thompson and Bishop went up the river. Returned in an hour or two. Climbed up a gulch 200 or 300 feet and found a spring of water. Near that some curious lime fossils on a bunch of grass, leaves, &c. The day passed in the usual routine of camp life.

Thursday, August 17th. Thompson, Steward and self went up the river on right bank about a mile then up a lateral cañon, where we saw 2 mountain sheep, one of which Steward wounded; both escaped. Climbed up the steep side of a mountain and at half past 10 found ourselves at the top about 2 miles back from the river and 3000 feet above it. The air was so full of smoke that it was difficult to distinguish objects at any distance. Below the hills seem to be lower and run transversely across the river which cuts through them. Their sides are very much eroded and vast gulches or cañons separate them from each other. The

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This type of portage became variously known to the members of the party as a "Kicking" or "K.G." or "Keg" portage. Thompson says laconically, "It is easier for the boats but harder for the men." Also see Clem Powell's description under this date.
timber on the mountains is principally on the north side and consists of fir, spruce, cedar, piñon, and red pine, with an occasional mountain maple. The hills are destitute of flowers and the whole country well deserves the name of desolation. Back to camp at 1 P.M. Pulled out at 2:10 and immediately ran a rapid, the keels of the boats striking rocks. Ran another rapid and pulled in to left bank at the head of another bad one down which we let the boats by line. Then ran another rapid and landed on right bank at head of another one. Nine Mile Creek [Minnie Maud Creek] comes in on right here. A small clear, cold stream. Here Beaman and Clem stopped to take pictures. We made a line portage with the "Nellie" and "Dean," then came back for the "Canonita." While in the center of the rapid Beaman took a view, which is splendid. He also took one of a high cliff on left bank on which is an isolated rock looking very much like a house. Named it "Log Cabin Cliff." When we reached the foot of the rapid the crew of each boat jumped in, the men on shore cast off the line which the bowsmen drew in while running. In this way the "Dean's" crew brought down our own boat and also the "Canonita." Ran another small shallow rapid and made Camp No. 41 on left bank at 5:30 P.M. Ran 3½ miles. In running the last rapid the "Nell" got a hard rap on starboard starting a plank. The "Emma" has been very fortunate so far. Has received many a thump but none hard enough to do any damage. But our turn may come next. From Camp No. 40 a small park runs on left to Nine Mile Creek, then nearly vertical walls to a mile below Camp 41. From Nine Mile Creek to a mile or more below Camp 41 a small park on right. Hills on both sides much cut by lateral cañons. General character (Geologically) still Tertiary sandstone much colored by iron with an occasional stratum of clay shale, and a few bituminous shale. Our Geologists say we must soon find a bed of coal. A bed of loose rocks prevented getting the boats nearer than 20 or 30 rods of bank and we had to carry things for cooking and beds that distance. All were tired, wet and hungry and soon after supper silence reigned. General course of the river 11° east of south, Log Cabin Cliff is 2318 feet high. Triangular measurement.

Friday, August 18th, 1871. Waited for pictures. Broke camp at 10:30 A.M. and immediately ran a small but very swift rapid, then fair sailing near a mile and another bad rapid. The river turns here from southwest to southeast very abruptly, divides around a small island of rocks The left-hand channel too shallow to run. The right very narrow, and swift. The current sets strong on 2 large rocks and required hard work and quick pulling to save us, but Fred and Jack were equal to the emergency. Ran another rapid, the boats all striking, but no damage done. Pulled in to right bank on a sand beach. Took out the cook's things at
11:30 A.M. and Andy began dinner. Made another line portage of rather more than \( \frac{3}{4} \) of a mile, getting in with the last boat about 12:30 P.M. Went back for dinner, all very hungry.

Started again at 2:15 P.M. Ran a short distance and struck another rapid where the river runs nearly west. Went through all right and turned short to the left, ran about half a mile through smooth water and landed at the head of the worst looking rapid we had yet run, but found it very easy. Made \( \frac{3}{4} \) of a mile inside of 2 minutes, and landed on left bank at head of a place where the river spreads out to more than \( \frac{1}{8} \) of a mile, is very shallow and full of rocks. Made another line portage of about a fourth of a mile, crossed the river to look at another rapid. It extended for half a mile and was full of rocks, but looked deep enough to run. Started out. "Nell" soon struck a rock. We steered to their right and went whooping, the "Canonita" following in close. They soon got off and came down and we made Camp No. 42 on left bank in a very small park covered with sagebrush, a few cedars, and 4 small cottonwoods at the head of another rapid. Landed at 5:30 P.M. Distance of 4\( \frac{3}{4} \) miles. General course 9° east of south. All wet and tired. Again lulled to sleep by the sound of a rapid above, and one below us.

Saturday, August 19th, 1871. Broke camp at 7:30 A.M. Ran a rapid just after starting, then another and very shortly a third, then a half mile of smooth water. Next let down by line on right bank, each crew managing their own boat. Soon ran another rapid, and came to another place where we again let down by line through big waves. From this we found nearly a mile of smooth river. In floating along here the cañon walls seem to be getting lower and below us looks like open country again. Made another line portage from left bank and stopped among the rocks on right bank for dinner at 11 A.M. at head of one of the prettiest falls yet seen, which we named "Chandler," and gave the same name to a small creek that comes down a lateral cañon opposite noon camp. The hills at noon camp are from 600 to 1000 feet. The shale entirely eroded leaving the dark red sandstone clear to the top. Started as soon as dinner was eaten and let the "Canonita" down over the fall about \( \frac{1}{8} \) of a mile, where we left her tied to a rock and went back for the "Nellie," Beaman taking a view while we were in the worst of the rapid, as also one of the "Emma" which shortly followed. The water falls here about 10 feet in 20 rods. Pulled out from there, ran a short distance and stopped to get a view of the cañon of Chandler Creek. While here we discovered a natural bridge of rock spanning a gorge at the height of some 2000 feet. We estimated the bridge

Chandler was the maiden name of the wife of J. F. Steward, assistant geologist of the expedition.
to be about 200 feet long, and 100 feet high. Left the Photographers' things to get a view in the morning and crossed the river and made Camp 43 on right bank at 3:30 P.M., having ran 53 3/4 miles. Camp was under a cliff on a sand bank at the head of another rapid. Prof., Steward, and self went down through a small valley about 2 miles. Found the hills separated by larger canons, but could see no end of them. Climbed a small mountain from which we could see the river some 2 miles farther. Counted 8 rapids; through 3 at least the boats must be let by line. The setting sun, or rather his sinking behind the hills warned us of the approach of night and we returned to camp, killing a rattlesnake on the way, to find supper ready to which we did ample justice. We had a description in the evening on the manner of making and the power of the Stereoscope. Bishop and Clem spent their time with a game of chess. For some unaccountable reason I could not sleep. Until long past low 12 my thoughts were busy. Tried to walk myself sleepy, paced the sand beach a long time.

Sunday, August 20th, 1871. Bishop and Clem crossed the river to get a view of the natural bridge in the rays of the morning sun. Took the "Nellie" and "Emma" across the stream, let down by line about 1/4 of a mile, then ran a rapid and made Camp No. 44 on right bank at head of another rapid. Commenced the day by reading a chapter in my testament, the only reminder of civilization, and the day. Camp was on another sand bank but there were a few cottonwood trees, under the shade of which we spent the day. Made 3/4 of a mile.

Monday, August 21st, 1871. Broke Camp No. 44 at 7:40 A.M. Had smooth water for about 3/4 of a mile, then ran a shallow rapid where all the boats struck, the crews of the "Nellie" and "Emma" wading. The "Canonita" ran bumping along, the men all in the boat, which caused Beaman and Thompson some words. From there let down by lines most of the way for half a mile. Then ran another rapid within a half mile, then smooth water another half [mile] which brought us to another line portage and soon another. After this another, then pulled 3/4 of a mile, then another line portage when we stopped for dinner on left bank at 11:15 A.M. at the middle of a rapid. Waited for pictures until 4 P.M., during which time went down the river a mile or more. Ran 3 rapids in quick succession, then 2 more, then let down by line 1/4 of a mile, then ran another rapid, and made Camp No. 45 on right bank at foot of last rapid, and head of another. The hills on this day's run were more broken. Large, almost vertical cliffs rise isolated, separated by large, deep canons, while along the river are small valleys from 1/4 to 1/2 mile wide, covered with sagebrush, cactus, small cedars, and an occasional hackberry, and some cottonwood trees. Prof. and self, as usual,
went down the river. Found plenty of sand, any quantity of rocks, and rapids. All slept on the sand. Wet, tired, and hungry. Made 6$\frac{3}{8}$ miles.

Tuesday, August 22nd. Started 7:50 A.M. and described a quadrant for half a mile running almost a continuous rapid. Going at the rate of 20 miles an hour. Shortly made a line portage for nearly $\frac{3}{8}$ of a mile, then ran a beautiful rapid where the whole volume of water of the river sweeps through a channel not more than 75 feet wide, the waves 4 or 5 feet high; ran into an eddy and let down again by line, then ran through smooth water $\frac{3}{4}$ of a mile, then let down by line and ran a short distance and once more let down by line over a big rapid full of big rocks where all hands were required to manage one boat and stopped for dinner on left bank at 11:50 A.M. In center of the last rapid a small clear creek comes in on left. At the head of the first portage Bishop broke an oar. While waiting for dinner, Thompson and I again went down the river. The valley widens here and quite a number of cottonwood trees grow on both banks. After going down about $\frac{3}{4}$ of a mile saw where the mountains broke down on the right and soon saw an animal moving which we decided to be a horse. Being on the opposite side of the river we could not approach near enough to ascertain for certain. Returned for dinner, then buckled on our revolvers, took a field glass and again went down the river as far as possible. Found the animal to be a horse, but could see no sign of a camp. Went back, and, as soon as Beamian finished taking a view, pulled out into a big rapid. The "Nellie" in lead struck several times, but landed safely below. We following struck a big rock turned half way round and hung. The boys jumped into the water; Prof. and Bishop ran up the bank; we threw the line ashore pushed off and came in all right, receiving no injury. Fred and Jack did nobly and the blame of striking, if any exists, must rest on me. The "Canonita" came through safe but hitting several times. Started again, ran another rapid, a short distance below which the boys caught sight of the horse, and we pulled in on right bank; went ashore and tried to get up to him but could not. However got near enough to find that he was branded on both hips and was very lame. Had undoubtedly been turned out by the Indians, as the remains of some wickiups were near. Here we saw that the cañon walls were very much broken. Not more than 400 or 500 [feet] high on the river. A very great change also Geologically. The rocks through which we had been passing were red sandstone for the last 20 or 30 miles, very little shale, and no fossils; here the clay shale again appears and a great many fresh water shells, indicating that the strata up the river were formed in agitated water, while these were deposited in comparatively still. Made a small collection, then ran a rapid and made Camp No. 46 on right bank in a
small valley among some cottonwoods at head of another bad rapid. Ran 5½ miles.

**Wednesday, August 23rd.** As soon as breakfast was over Steward started for specimens, Thompson and I to climb out. Do not know what the rest did. Went up the small hills, in passing over which we found some curious specimens of erosion. In one spot the clay shale impregnated with alkali was covered with loose dark sandstone which looked like they had been laid up in order by the hand of man. A short distance above that came to a spot where the sandstone had been all eroded except some rocks that formed monuments resting on the shale. One in particular we estimated to weigh 100 tons was 50 to 60 feet in diameter, and 40 or 50 feet high, resting on a pedestal of clay shale and conglomerate rock 30 or 40 feet high and not more than 10 feet in diameter. The soft shale is rapidly weathering, and soon the hard rock must fall, and go tumbling into the gorge below. The mountains rise in sharp crags, and we walked about 4 miles before finding one we could climb. Then went up a very steep bank sometimes over almost perpendicular rocks until we reached the height of 1500 feet. Above us rose vertical cliffs for 500 or 600 feet that it was impossible to scale. Took observations on several points, and viewed as desolate a country as my eyes ever beheld. Along the river are some trees, but on the hills which run transversely across the river which has cut through them, is very little vegetation. We found that at Camp 46 the plateau drops suddenly from about 2500 feet to about 1500 feet. Returned down the cañon bed of a dry creek, that has cut its way down the limestone which is curiously worn and much colored with iron. Got into camp just as the boys had finished their dinner, ate ours, loaded the boats and let down over the rapid, which Beaman called "Sharp Mountain Fall," and waited for Beaman and Clem to come down the hill where they were taking some pictures. While letting the boats down a thunder storm burst in the mountains above us, a very little reaching us. While waiting Steward discovered a salt spring and procured some specimens of pure salt. Started again at 4 P.M., ran through smooth water for some distance finding quite an island on the right, and ran the first part of a rapid. Toward the lower end the river divided into 3 channels and we pulled into shore very quick. Decided to run the rest of the rapid and the "Nellie" started out getting aground in the middle channel and the men out. After getting below, Thompson signalled me to take the right-hand channel. Did so but as soon as we struck the waves felt sure that we must hit a big tree that had lodged in the stream. Told the boys to pull and they did all that was possible; felt the boat jump at every stroke but the current was too strong and in less than one tenth the time it takes to write it we struck, breaking off our
bow starboard row-lock like a pipe stem and catching on the center cabin. Fred’s oar went down stream and was picked up by Bishop. We hung until Jack took the row-lock out at his oar, then we dropped down and held on to the limbs of the tree until he replaced it, then ran the rest of the rapid with one pair of oars, as also another [rapid] and made the distance into camp about 1 1/4 miles in the same way. Made Camp No. 47 on left bank in a small valley; no trees. Small hills on right rising back from the river. Stopped at 5:15 P.M., having run 3 miles. While Jack was cutting willows for a bed he came near taking hold of a yellow rattlesnake which we killed and found he had 9 rattles. Fixed a hole pin in 3 of our broken row-locks and felt as good as new.

Thursday, August 24th, 1871. Broke Camp No. 47 at 7:30 A.M. and ran half a mile through smooth water. Then a small rapid, then smooth water for 2 miles which brought us to a sharp turn in the river to the left, where we were obliged to make land among big rocks very quickly to prevent being carried over a big rapid. The wall on the left was vertical and a number of big rocks had fallen in, making it impossible to let down on that side, so we pulled across and held on to our boats through a narrow, shallow channel. A small creek comes in on right near center of the rapid. Started again and ran a rapid where we were obliged to make very quick turns run in a serpentine course to avoid the sunken rocks. Pass 2 small rapids then nearly 2 miles of smooth river, in which we saw several otters swimming. A good many shots were wasted but no game. In running along here we first noticed seams of coal, and upon turning a corner where we stopped to examine another rapid found a quantity of fossil remains of oysters and other shells, as also coal. Steward collected fossils while we let the boats down over the rapid, killing a rattlesnake on the rocks. The presence of coal and the great change in the face of the country induced us to make the end of the Cañon of Desolation at the break mentioned on the 22nd, and call this “Coal Cañon.” From here ran 2 rapids and stopped for dinner on right bank under one lone cottonwood among the rocks, close under the cliff. Nearly vertical walls on both sides 400 to 600 feet high, composed of thinly bedded sandstone and considerable shale. Started at 2:15 P.M., ran a bad rapid then smooth water for a mile, then another long rapid, and shortly came to a place where we let down a quarter of a mile by line. The cañon walls were very steep and the water had been high so see no other way we could have passed but by climbing the

*The deep narrow gorge that begins at the foot of Desolation Canyon, cuts through the Tavaputs Plateau, and terminates abruptly in the Book Cliffs, is generally known as Gray Canyon. Because of the numerous beds of bituminous coal exposed in its walls, the name Coal Canyon is also in use.*
wall; then the last man must swim. From here ran a very pretty rapid, the water at the head as smooth as glass then breaking into small waves, very swift, but no rocks. Then ran the worst rapid since entering the Cañon of Desolation. After this ran 3 rapids in going 2 miles and made Camp No. 48 on right bank on the sand. Not a tree within reach. A lateral cañon, a very narrow [one], and [with] steep sides comes in just above camp. Passed a number of railroad ties, and some of the boys picked up a piece of bridge plank with some spikes driven into it. Ran 12 miles.

Friday, August 25th. This morning Prof., Bishop and myself climbed out up the cañon above camp, getting 2000 feet high and 2 miles, back in an hour and a quarter. Some of the time our only path was up the vertical walls, holding on to the sharp corners of the rocks. Found the country much the same as at our last climb. The plateau some 1500 or 2000 feet above the river, very much broken by cañons. The hills composed of sandstone, clay shale and an occasional [stratum?] of bituminous shale, or coal. Made all the haste possible in order to get away from camp. Got in a few minutes past 11, dinner was soon over, and we broke Camp No. 48 at 12:15 P.M. and soon struck a rapid only half a mile long. Then made a line portage and soon another and shortly ran another rapid, then 4 more and came to the channel, there being no water, at 3:15 P.M. Made Camp No. 49 on right on the sand and mud in the channel of the White [Price River]. Ran 5½ miles. Thompson and self went up the valley about 2 miles. Wanted Bishop to go but he said he had enough in the morning. Found the general course of the river to be nearly northwest. Some water in pools about a mile up the bed. A valley from ¼ to 3/4 of a mile wide surrounded by curious buttes of sandstone. The valley can be entered some 8 or 10 miles back, and Indians frequently come down to fish and hunt. The name of "Castle Valley" is given to this. Saw the coal seams at the height of 1500 feet that were near the surface, some 12 miles back, showing that the river runs down [descends] that much. Back to camp near night and turned in on the sand soon after.

Saturday, August 26th, 1871. Broke Camp No. 49 at 7:15 A.M. and immediately ran a shallow, swift rapid near half a mile long, then 3 more in going 2 miles and came to the narrowest spot yet found in the river. The whole body of water pours through a channel not more than 30 feet wide. The bed is full of rocks but the water so deep there is not much danger of striking. The "Nellie" ran through safe, but running through the

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*The present Price River was known to trappers and other early travelers as Little White River. It was renamed after Mormon colonizers in 1879 settled the town of Price—named for William Price, who examined this region for the L. D. S. Church in 1865.*
largest waves shipped a good deal of water. The "Emma" followed, only getting one wave and that small. Next the "Canonita" shipping considerable water. After this ran 4 rapids and came to a long shallow full of rocks where we waded beside the boats near half a mile. Passed an island on left, at head of this let down. Ran about half a mile to end of the cañon and made Camp No. 50 on left bank at 11:40 A.M., having run 8½ miles. After dinner we loaded the boats and pulled them up on the sand beach to dry and calk, all leaking bad. The afternoon was spent in fixing things up, most of the men being nearly barefoot, and clothing badly dilapidated. Thompson and self went down the river about 2 miles. It seems to run through a valley, small hills on each side rising into singular isolated buttes farther back. From the singular shape of the hills this is called "Castle Valley," the same reaching to the northwest on to the Little White. A very irregular hill rises nearly opposite camp. The elements have eroded all the upper strata of rocks, except in one spot, leaving the hill nearly square, the highest point resembling the steeple of a church. On one corner [Gunnison Butte] stands a lone rock, which can easily be imagined to be a chimney. The height of the main hill is about 1000 feet; of the steeple about 1500 ft. (estimated). Suppose the entire length to be 2500 feet. Its width about 1000. We named it "Cathedral Butte." Imagined we could see far down the river, the chain of mountains that mark the entrance to the next cañon. We will remain here until the 3rd of September unless sooner joined by Major Powell." If he is successful in finding a practicable route for the team in to the mouth of the Dirty Devil he will be here by that time, if not we will run as rapidly as possible until we meet him or reach the Paria River, our winter station. From the mouth of the Uintah River to the head of Desolation Cañon is 36 miles. After the first 10 miles but little vegetation. The general level of the country from 300 to 500 feet above the river. Is a plateau, treeless and flowerless, much broken by gulches. Desolation Cañon is 58½ miles long, has rapids and 3 falls. We ran [ ] of them and [let] down over [ ]. Coal Cañon is 28½ miles long has [ ] of which we ran [ ] and let down over [ ]. The whole country from the hills above Desolation Cañon is very desolate, and perfectly worthless. Total distance from mouth of Uintah to end of Coal Cañon 122½ miles. Total number of rapids run 86. Number of line portages 32. Number of falls which

The camp occupied by the expedition August 26-September 1 was a few miles above the crossing used by William Wolfskill in 1830-31, by Captain J. W. Gunnison in 1853, and by the pioneers who explored the region about Moab in 1855. Near the crossing the settlement of Greenriver was founded (1878) and became a relay mail station and a stopover place for travelers between Utah and Colorado. The crossing was bridged by the Denver and Rio Grande Western Railroad in 1882 and some years later a bridge suitable for wagons was constructed—now part of the much used highway U. S. 50.
we named 3. Total number of rapids 118. Height of Cathedral Butte 1211 feet, triangular measurement.

Sunday, August 27th. The day spent in camp by most of the party resting. Thompson and Steward went down the river to the old Spanish trail, or Gunnison’s Crossing, some 5 miles. Saw plenty of signs, but no Indians. We are camped just below the last line portage made and still hear its roar. Have not been out of the sound of rapids for more than 2 weeks. The “General” has called supper. His kitchen and dining room are in one, underneath the branches of an old cottonwood. After Supper the sun has disappeared behind the western hills. Some of the boys are singing, some talking and some fixing their beds. Soon “gentle slumber will o’er us steal” and the silence be unbroken save by the night bird, or prowling coyote.

Monday, August 28th. All hands at work on the boats for an hour or two. Then I fixed a wickiup for Fred, Jack and myself. Bishop did the same yesterday. Have been at work copying notes and duplicating map all day.” My crew is calking and pitching the seams of our boat. Launched the boats in the afternoon. While employed on them this morning Beaman took a picture showing them, and also Cathedral Butte. Named it (picture) “End of Desolation.” “On the stocks for repairs.”

Tuesday, August 29th, 1871. The morning was put in work in camp. Shortly after dinner, while I was taking an observation for time we heard 3 shots in quick succession down the river, “our signal.” We answered them and shortly after saw 2 men on horseback on the right bank. Quickly pulled 2 boats across the stream, and soon greeted Major Powell.” With him was Fred Hamblin, a Mormon from Kanab. After rowing over to camp

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To obviate the loss of the maps—the most valuable product of the expedition—copies were carried by different men in different boats. The running accounts were also substantially duplicated in various diaries.

The Major here resumes his sketchy journal, but not very communicatively. He dismisses events of the preceding six weeks as follows: “Left two boats, the ‘Nell’ and ‘Canonita’ in Island Park and party in charge of Thompson on July 7. Arrived on Green River at foot of Gunnison’s Butte Aug. 29, 1871, and joined party again.” The usually quiet-tempered Almon Harris Thompson comments in his own journal:

It seems as near as I can make out, that Mr. Hamblin was not joined by Captain Dodds, and has gone to Kanab, whether to fit up to come to the Dirty Devil or not, no one knows. I cannot learn that the Major made any serious effort to get in and do not believe he did. Mr. Hamblin probably made a slight effort to rush the Dirty Devil or some such attempt. It seems that he (the Major) concluded to go to Salt Lake, so took the stage. Went up, stayed three days, and then back to Manti. Bought a few supplies and came in. I do not care a cuss whether he comes with us or not on the river, but it makes one mad to wait and then have him come in and report a failure. We shall have some time, I see, before we get through but “the Devil”—I knew how things would be before starting, so ought not to grumble.
and they had dinner, he gave a short account of his travels. Found
that it would be [a] very difficult matter to reach the mouth of
the Dirty Devil with rations, so returned to Manti, a Mormon
town among the mountains some hundred miles west of here;
bought some rations, hired this man Hamblin and his nephew
Lyman to come to the river with a pack train, sent word to Jacob
Hamblin to meet us at the Ute trail, sometimes called the "Cross-
ing of the Fathers," about a hundred miles below the Dirty Devil,
himself went to Salt Lake for our mail, leaving there the 20th
and reaching the river some 4 miles below us this morning.
Decided to break camp and drop down to that point. I crossed
the river, took the horses and rode over the hills 5 or 6 miles find-
ing their camp in charge of young Hamblin. Soon got acquainted
and received my letters, 4 in number, 2 from Lacon of July 24th
and 29th, one from Washburn of August 16th, and one from
Evansville of July 18th. While reading them the boats came in
sight and soon landed on right bank making Camp No. 51 about
6 P.M. Ran 4\(\frac{3}{4}\) miles getting aground twice. The boys hardly
waited to fasten the boats before rushing up the bank for their
letters and for the next hour were busy with news from friends.
A few papers came, but none containing letters from our party.
Camp was near Gunnison's Crossing.\(^*\) Small round hills of shale
close back of it; on the opposite side of the valley reaches 2 miles
or more, flanked by curiously molded Tertiary buttes. The river
is very low and we will undoubtedly have much hard work before
reaching winter quarters some 200 miles distant. Again we sat

\(^*\)Captain J. W. Gunnison's party, exploring Pacific railroad routes, crossed
the Green River here October 1, 1853. Lieutenant E. G. Beckwith writes in
the official report:

We crossed the river by an excellent ford, which we had observed
the Indians crossing, from a few yards below our camp (on the Spanish
trail) to an island opposite, and from its upper end to the shore. The
river is 300 yards wide, with a pebbly bottom, as we forded it, but
with quicksands on either side of our path. The water, rising just
above the axletrees of our common wagons, flows with a strong cur-
rent, and is colored by the red sandstone of the country through which
it passes, having here the same red muddy character which the
Colorado has far below, where it enters the Gulf of California. A fine
field of blue-grass, in a grove of cotton-wood just above the ford,
and the lateness of the hour, determined us to encamp for the benefit
of our animals; but a recent overflow had left a fine deposit of mud
on the grass, which made it unpalatable to them.

Indians thronged our camp for several hours. They are the mer-
riest of their race I have ever seen, except the Yumas—constantly
laughing and talking, and appearing grateful for the trifling presents
they receive. A wrinkled, hard-faced old savage, with whom I shared
my luncheon of bread and bacon, quite laughed aloud with joy at
his good fortune. \(^* * *\) (Report of Explorations and Surveys to
Ascertain the Most Practicable and Economical Route for a Rail-
road from the Mississippi River to the Pacific Ocean, Washington,
1855, vol. II, p. 62.)
until late into the night, talking over events that had occurred since last we met. The Messrs. Hamblin [Lyman and Fred] will remain for a day or two and take our letters to Manti to be mailed. ’Tis past 11, & I am sleepy.

Wednesday, August 30th. Spent the day in camp copying notes, plotting map, taking observations and writing letters. The rest of the party similarly employed. The Topography of this valley presents some singular features. A low range of hills is near the river, sometimes on one side, sometimes the other. Back of these are high buttes, some of them isolated, some in long sweeps, their sides weathered in very peculiar shapes. Without much stretch of the imagination one could see castles, with bastion, tower and angel. Huge blocks of buildings, churches with spire and steeple, and indeed almost anything else. Near Camp No. 50 on the right or west bank and back of Cathedral Butte rises an immense pile near or quite 1800 feet high near 6 miles long, trending for 2 or 3 miles nearly west, then sweeping to the northwest as far. This was named “Gunnison’s Butte.” Near it is a nearly round bell-shaped hill which Beaman photographed and called “Azure Butte.”

Thursday, August 31st. The day was spent in duplicating notes, &c., & writing letters to be sent out. Hamblins will remain until tomorrow.

Friday, September 1st, 1871. The Hamblins left about 3 P.M. taking 42 letters written by our party. They have 100 miles to ride to reach Manti and must cross the snow-covered Wasatch range. At 3:50 P.M. we broke camp and dropped down 3/4 of a mile, and made Camp No. 52 on left bank. At 4 P.M. Beaman and Dellenbaugh went up the river to Camp No. 50, after I saw that the crew of the “Nellie” left; not getting back until after dark.

Saturday, September 2nd. Broke camp at 8 A.M., ran a small rapid immediately, then down Castle Valley, the hills at times being close to the river, then swinging back and presenting to our view a broad valley with some grass and an unlimited amount of sage and grease weed. Along the stream are many beautiful groves of cottonwoods. The river flowing in a general southerly direction but in long curves. Very shallow. Got aground several times. In the afternoon we passed a great many black hills which are probably cretaceous. Made Camp No. 53 on left bank at 5:25 P.M. in a wide valley opposite a range of these hills, having made 16 1/2 miles.

Sunday, September 3rd. Steward, Clem, the Major and Myself crossed the river about 8 A.M., the former to examine the nearer hills; we, Major and self, to go across the country to examine a long range of hills that stretched from north to south and seemed to be upheaved [San Rafael Swell].
Took with us 3 canteens of coffee and bread and meat enough for dinner. Climbed the hills on west side of the river, descended again and followed the winding bed of a dry gulch some 2 miles, then struck across more to the west and travelled over loose, sandy soil with scarce a shrub or blade of grass. I never understood before the full meaning of the term “bare ground.” Walked until after 11 o’clock, the 5 or 6 miles that seemed to intervene between camp and the range, stretching into 10 or 12. Found a place where the Tertiary had been eroded and a great quantity of [Cretaceous] fossils were found consisting of Ammonites, Hamites, Austrias, &c. We spent about 2 hours in gathering them, then sat down and tried to eat but were so warm and tired and the sun shone so hot that we did little except drink our coffee. No shade could be found, nothing but bare rocks and bare ground. Walked about 2 miles farther, obtained a good view of the vertical range. It consisted of Tertiary (probably) rocks greatly upheaved from the general level at the north, growing more and more steep until it became nearly vertical, then sloping to the south. Composed of mostly of red sandstone. To the south we marked the windings of a stream, either the San Rafael River, or some one of its branches. Started for camp at half past 3 over the loose hot sand. Drank the last of our coffee about 5 P.M., and walked the rest of the way to the river without drink, reaching there at half past 6, where we drank the first water since morning. Hailed a boat, crossed the stream and tried to eat supper, but both were too tired. I was the nearest tired out of any night on the trip. Found that Steward and Bishop had been up the river 3 or 4 miles to where a bed of satin spar [aragonite] was exposed which we passed yesterday. They found a cave into which they went some distance bringing out specimens of stalactites and stalagmites. After an examination of the fossils found today it was determined that the beds where they were found are Cretaceous (probably). Too tired to sleep well.

Monday, September 4th. Observations were taken here and worked up for latitude showing camp to be in 38° — 55’ north. Broke camp at 9 A.M. and ran until 12 M. down a winding stream. Stopped on right bank under a cliff for dinner. Started at 2:15 and ran with occasional stops, until 5:25 P.M. and made Camp No. 54 on left bank in a grove just above the mouth of the San

For the Green River Valley below Greenriver, Utah, the geological observations recorded by Jones and his associates in 1871 are supplemented by detailed reports and maps prepared 65 years later: For the country east of the river, by E. T. McKnight, Geology of the Area Between Green and Colorado Rivers, Grand and San Juan Counties, Utah (U. S. Geological Survey Bulletin 908, Washington, 1940); and for that west of the river, by A. A. Baker, Geology of the Green River Desert—Cataract Canyon Region, Emery, Wayne, and Garfield Counties, Utah (U. S. Geological Survey Bulletin 951, Washington, 1946).
Rafael River, at this time a stream of about 15 feet wide and 6 inches deep, the water colored nearly white by the soil through which it runs. The bank was about 15 feet high, very steep, of dark sand as was also the shore. We found abundant evidences that this is an Indian camp ground. Many wickiup poles were lying around, but have not been used for a good while. A great many pieces of flint were found of various colors and several were soon busy picking them up. They had been worked by the Indians into arrow and lance heads. Quite a number of broken heads were found and hundreds of chips that had been broken. This was undoubtedly the home of the ancient arrow maker who made arrow heads of chalcedony. We were in the country called by natives Toom-pin-con-to-weep, meaning "stone house land." Ran 14½ miles.

**Tuesday, September 5th.** This morning Major and myself started up the San Rafael on foot. He carried one blanket, a sketch book and canteen of water. I, one blanket and Knapsack containing a loaf of bread, some dried meat, coffee & sugar, 3 cups and 2 spoons, and a field glass. We travelled slow, not wishing to repeat our experience of 2 days before; kept to the right or north of the river hills until about noon, then climbed over and down to the stream, camped under a tree in a small grass-covered valley, made some coffee, at dinner, left our camp equipment, waded the brook, climbed the cliff then a hill of bare rocks that rose in terraces to the height of more than 1000 feet. From here we could see the windings of the San Rafael from the mouth far up toward the Wasatch range [Wasatch Plateau]. Also obtained a good view of the upturned range before visited. The San Rafael runs through low cañon walls in short curves, the cliffs coming to the water on one side, a narrow valley on the other. It was near sunset when we started to return and long after dark when we reached camp, where we built a fire, ate supper, spread our bed, collected a quantity of dry wood, piled it high on the blaze, lay down, went to sleep, awoke in an hour or two cold, replenished the fire, and again went to sleep. Thus passed the night.

**Wednesday and Thursday, September 6th and 7th.** Up early, breakfast soon over, packed up and started down the stream. Reached camp about 11 A.M., found that Steward, Bishop and Clem Powell had crossed the river, the first to examine the near hills, the two last to go to a butte of red sandstone⁶ which was estimated to be 6 or 7 miles distant but looked to me to be not nearer than 10. They took rations for dinner and a good supply

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⁶Probably refers to the conspicuous Tenmile Butte, which rises abruptly from a surface trenched by Tenmile Wash and other canyoned streamways. The region about the butte is frequently swept by winds—in local parlance strong enough to "blow the hair off a dog."
of water. Steward came in at noon. Prof. took observations here for latitude and longitude. Places camp in [ ] north and 110° ['"?'] west. As night came on we began to feel uneasy about the absent men. If they had found water there was no danger, if not they must be suffering. As it became darker we built a large fire on a point near camp to guide them if within sight, and took turns in watching and keeping fire. Beaman remained up until 11 then called me. I stayed until 2 A.M., then woke Fred who got Andy out at 3. Breakfast was ready at 5 and [as] soon as they could see, Major and Hillers crossed the river to follow the trail if possible, carrying bread, meat, coffee and water. About 7 Thompson, Steward, and Fred took the "Nellie," provisions and water, dropped down the stream about a mile and started to follow the first party. They did this that a base of supplies might be established nearer the search. Beaman, Hattan and myself remained in camp to be ready for an emergency and also to take some observations if the clouds should lift. About 9 A.M. we heard signal shots down the river, and shortly Fred came in and reported that his party saw from a hill that Major and Jack had met the boys; that they returned to the river. Thompson & Steward went down stream to where they supposed they would meet the wanderers, sent Fred back to help us with word that if nothing further was heard to load up and go down stream. Shortly after, it began raining and we were soon thoroughly wet. About 11 A.M. it ceased sufficient for us to pack up and away we went. Beaman and Hattan with the "Canonita." Fred and self with the "Dean." Ran about 2 miles in the rain, found the rest of the party on left bank beside the cliff wall, pulled in, got dinner and started again at 2:15 P.M. through the rain. The rock walls during the afternoon were vertical from 50 to 400 feet high. When one side of the stream had vertical walls the other would be in rounded hills, both of bare sandstone. As soon as sufficient water had accumulated above, it began pouring over the wall into the river. Sometimes the streams were colored with red sand, sometimes quite clear. Made Camp No. 55 at 4:45 P.M. on left bank. Ran 6¾ miles. Bank quite steep of white and red sand, at camp opposite a vertical cliff wall 300 feet high, scarcely broken by a seam. Continued raining until far into the night. We counted 11 cascades falling over the cliff opposite at one time. This was the first rainy day of the trip. Indeed the only one that could be called so since leaving Illinois. We had seen a few small oak trees farther up the river, here we found quite a grove of them. Cut some poles, pitched 3 tents, built a fire in front of each, brought up a good supply of dry oak wood, spread our beds, crept into the tents and spent a pleasant evening, the rain pattering on the roof. Bishop and Clem gave me an account of their trip. Found the distance much farther than they anticipated. When they reached the
summit of the butte it was 4 P.M. They had eaten their rations, drank the coffee and the water taken from the river. Fortunately they found water pockets and obtained a supply of Aqua Pura, or their sufferings from thirst would have been intense. When they started down expected to reach camp sometime during the night, but the sky was overcast with clouds, the way rough and dangerous and about 9 o'clock they gave up and decided to spend the night. They claimed that the wind blew so strong they dare not build a fire, so gathering a few bushes for a bed they lay down supperless and without blankets to pass a miserable night. Started at daybreak, met Major and Jack, ate their breakfast or supper or both and struck for the nearest point on the river.

[September 8th.] Labyrinth Cañon begins just below the mouth of the San Rafael River. The Indians call this "Camp Oak." Beaman went up the river and took some views of a lateral cañon on the other side of the stream. From the fact of it being divided into three parts he called the pictures "Trin Alcove" from across the river. While he was at this a number of us climbed the rocks back of camp." Had a splendid view. Could see the mountains of Desolation Cañon and most of the buttes in the valley [probably Book Cliffs and the ridges and Tavaputs Plateau]. The river makes here a big bend nearly running back upon itself. The Major sent for Beaman to take up his instruments to get the view up the river. Decided not to break camp until after dinner. Called the bend "Trin Alcove Bend." After dinner Major and Prof. crossed the river to see Trin Alcove and soon sent back for the photographer. Most of the party went over to the gorge. Had too much to do to leave camp. Did not break camp. About dark clouds overcast the sky. The lightning flashed and the

4"The Major writes:

Climb naked rocks in front of bend. In every direction as far as we have seen for the past two or three days naked rocks prevail. Buttes are seen scattered on the landscape, now rounded into cones, now carved out with alcoves and sunken recesses and pockets. All varying from orange to dark brown often stained black. Curious arches, too, are seen on the vertical walls of the cañon. From the rounded rocks of this point with pockets filled by yesterday's rain we look off on a fine stretch of river and over the naked rocks and buttes, to the Blue Cliffs and the Brown Cliffs beyond and above with cumuli piled over all.

After dinner Thompson and I explore the recesses of Trin Alcove. The left one is an amphitheater turning to left and up with overhanging shelves and then turning as you look up to the right where there is a series of water basins; from these the water comes down into the basin at the bottom of the cave. Huge rocks lie piled up below and on the right the rocks arch overhead. The middle cove is a beautiful glen with verdure spread and trees scattered here and there. The right cove is a narrow winding gorge often with overhanging walls and mighty domes almost shutting out the light. (See pictures.) This cañon had many oaks along the base of the walls.
reverberations of the thunder echoed among the cliffs and along the cañon walls. We rolled out of bed and again pitched our tents, but not before the blankets were wet. Rained most of the night. A storm in the cañons! who can describe it? I can not. The pouring of the rain, the crash of the thunder, the brilliant flash of the lightning, the rush of the river, and above all else sound of innumerable cascades falling over the vertical walls. Cut down to half rations of sugar. Saving beans and apples for portages.

Saturday, Sept. 9th. Broke camp at 8:45 A.M., the “Dean” starting sometime in advance in order to stop and examine a lateral cañon that comes in on the left about a mile below camp. This bend of the river we called the first bow of the double knot. Ran until 11:30 A.M., the last half hour in the rain and stopped under the edge of the cliff among large rocks, a very steep bank, for dinner. Stopped raining, and we started again at 2:15 P.M. The river wide, still, and very shallow. Toward night the rain came down again, but soon the sun shone bright and looking to the east we were running nearly west. One of the most beautiful rainbows I ever saw met our gaze, seeming to span just the width of the cañon, its foot apparently resting upon the rocks, its arch but little, if any higher than the cañon walls. While looking at this grand sight all the boats ran onto the sand bar. All were obliged to get out; the two boats in the rear were easily backed off, but the “Dean” was on so far that we thought it best to go ahead. The water grew more shallow until at last it was not more than 2 or 3 inches deep. The boat sunk into the sand and all were required to push her over the bar. As we got afloat and the rest of the boys started to return to [sic] the scene was weird indeed. The sun shone brightly while just below it was a huge bank of black clouds, the rain falling in large drops; the bow still spanned the cañon, and the men barelegged, each with a rubber on, looked not unlike a procession of monks of the olden time. Soon after this we turned almost east, ran about 2 miles and made Camp No. 56 on right bank on the sand. Back of the camp was a steep bank with some willows, and a few scrub oaks. Back of this the cliff was broken down from 400 to 200 feet, and the river making a great bend almost doubles upon itself. We could see the cañon wall on the other side. Ran 15 ½ miles. Some rain in night.

Sunday, September 10th, 1871. We carried the instruments of the Photographer up the broken wall back of camp where the river could be seen on both sides; left Beaman to take pictures, and broke camp at 10:45 A.M.; made a circle of 5 miles, came back within ½ of a mile of last night’s camp, made Camp No. 57 on left bank at 12:20 P.M. The sharp point on which Beaman stood was so narrow that we could easily talk to him from camp in the morning, and also here. We called this the last bow of the
double knot. Sent a boat after Beaman, and while climbing the wall Steward found in a thin stratum of limestone about 100 feet above the river, some Con-chi-fers, and fossils' teeth, probably of fish. This discovery assisted in placing the rocks of the cañon among the Triassic. The walls of the cañon today have been nearly vertical on one side, from 500 to 800 feet high, on the other rounded into hills of red rock, or eroded into sharp pinnacles or round towers. At short distances lateral cañons enter in which are Amphitheaters, grottoes and alcoves. The prevailing color of the rock dark red, above this white sandstone, very friable, many of the rocks crumbling beneath the step. In many places this is entirely eroded. After dinner, Prof. and myself went down the river about half a mile and climbed out up a steep gorge. For 400 or 500 feet we went over loose earth over which were strewn huge boulders; among these grew many shrubs and bushes most of them unknown, then up the steep rock, finding it work[ed?] full of holes by the water that rushes down after every rain. In these we could put our hands and feet, and stand up a hundred feet or more into a huge dish hollowed partly out of the red and partly out of the white sandstone. Leaving this we went over a narrow ledge and came to a high rock that seemed to bar further progress. Prof. tried to climb but the rock was too high. Then I made the attempt and succeeded in reaching a narrow shelf, lay down, took my revolver belt, dropped one end to him and pulled him up. The rest of the ascent was quite easy. The plateau stretched for miles in all directions, broken by gullies and an occasional round topped hill or square butte was elevated above the general level. Beginning at the north we could see Gunnison's Butte, Cathedral Butte, the mountains of Desolation Cañon, and the hills of Castle Valley, the butte Bishop and Powell visited on the 6th and which they named "Lilly Butte." the Sierra La Sal, or salt mountains, the cliffs supposed to mark the cañon of the Grand, a high mountain far down the Colorado & the volcanic mountain [Henry Mountains] and vertical upheaval seen by the Major and I from up the San Rafael. This swept the horizon around the circle to the right and was the most extended view we have yet had. Prof. remarked that if he were able and had time would like to write a description of the scene. Reached camp at sunset. Bishop had measured the cliff back of camp and gave its height as 836 feet. A very heavy dew and cold. Ran 5 3/4 miles.

Monday, September 11th. Started at 8:25 A.M. and ran until 11:30 A.M. with an occasional halt to examine the rocks,

The geographic and geologic features of the Green River canyons below the mouth of the San Rafael, including the famous Bow Knot, Horseshoe, and Bonito bends, are more fully described by Thompson, and in recent years have been studied in detail by members of the U. S. Geological Survey.
which were mostly red sandstone with an occasional stratum of conglomerate limestone in their beds, and toward noon a few beds of blue clay shale. The cañon presented a great number of fine views and at dinner camp some of them were photographed. Called it “Tower Park.” On the left bank the ridges were broken into almost isolated buttes with vertical summits of red rock and steep banks of debris. The water of the river so thick with sand and mud we could scarcely drink it. Dug holes in the bank in which would collect some tolerably clear water; from these we filled our canteens to use during the day. Started at 2:45 P.M. About 3:30 stopped to take pictures. While at this the rain began to fall and continued until dark. Got fast on sand bars several times during the day. Hills farther back from the river. Made Camp No. 58 on left bank at 6 P.M. Bank very steep of red sand 8 or 10 feet high, then a thick growth of willows and large round grass, then a valley covered with sage, grease wood, a few small cottonwood trees and one lone large one that had been cut down and trimmed by the beavers, and which furnished us fuel for 2 fires, around one of which we pitched our tents and dried our clothing; the other was used by the cook. Ate supper about 8 o’clock, turned in and soon forgot our troubles in sleep. Ran 15½ miles. Called our camp “Labyrinth Valley.”

Tuesday, September 12th.” Up before daylight. Helped Andy get wood and breakfast, then wrote up my notes. Broke camp at 7:40 A.M. and ran over a smooth river still winding in long curves until about 11 o’clock, stopped to get a picture of 2 buttes that rose above the general level of the plateau. From our position they seemed to be joined in the form of a Greek cross. Made a splendid view. Dropped down about half a mile and made noon camp on right bank near the mouth of a small creek whose waters were very red [Barrie Creek].

“The Major’s journal entry for this day reads:
Came on to head of Stillwater Cañon, climbed out and took pictures, then run down (after dinner) to Old River Bed. The view from bluff was very grand. The river winding its way through the rocks to the S. E. with overhanging walls. Naked terraces with sharp salients and deep retreating angles. Orange and deep red Buttes standing on the terraces columned above buttressed and fluted below, some set with pinnacles and towers. Beyond the Buttes to the S. E. the Rock Forest and beyond the “forest” the mts. Everywhere naked solid rock or naked talus. From noon camp one of these buttes stood in front of another so as to seem one with it and present the shape of a huge cross so we named it the Cross.

This cañon has many drooping willow trees along the river. After dinner ran down to Old River Bed and took more pictures; found curious plants hanging from the rock in the angle formed by the gray and red homogenous beds as I found them two years before. The Rock standing in the center of the old curve is about ¾ mile long. Have a beautiful view of the curve of River.
The river bank steep and covered with a dense growth of willows. Back of this a small valley and sagebrush. No wood except these. Back of the valley were the white rocks in which were a number of water pockets, full from the recent rains. Jack climbed up and brought clear water enough for dinner, the river so dirty that the water could only be used by shutting the eyes and going it blind. The crew of the "Nellie" and the Major crossed the river where we stopped for pictures and climbed the foot hills, coming in just as dinner was ready. After dinner we took the "Emma" with Beaman and Clem, leaving Jack to come with Hattan; ran down a mile and carried the instruments about as far—to the top of a round hill of buff earth from where 6 pictures were taken. Just above noon camp we decided to end Labyrinth Cañon and a short distance below where the river cuts through the plateau of white sandstone, making nearly vertical walls from 50 to 75 feet, to begin another not named yet [Stillwater Canyon].

While waiting for pictures tried to write a short description of the scene before me, which is among my notes. The Major returned to the river, took our boat and went ahead taking Thompson and leaving me to come with the "Nellie." Started about 5 P.M. and at 6 found camp on right bank at the foot of a valley on the rock. About ½ mile above here the river has cut through the narrow wall and made a new channel, leaving a valley on the right, through which the old channel could be easily traced. A long narrow butte of white sandstone yet remained in the center of the valley around which the river once ran. The stream turns almost due east for a short distance and leaves a round valley on the left in through which is the rest of the white ridge that the stream has separated. Cannot describe these valleys and will depend upon the pictures taken to show their beauty. A sloping bank rose back of camp 200 or 300 feet, then a vertical wall nearly as high, along whose base grew many strange plants and flowers. From this wall hung pendant plants of a species unknown to me. Humming birds flitted around. Just here the fire burned low and this closes the record. Ran 103½ miles.

Wednesday, September 13th. Waited for pictures and got some fine ones; called one the "Old Channel" of the river, the other "The New." Broke camp at 11:50 A.M. and pulled steadily until 12:25 P.M. River wide and smooth. Generally vertical walls of white sandstone from 50 to 250 feet high. Back of this buttes of red sandstone. Several small valleys on each side of the river

60On maps prepared by the 1871 Powell expedition, "Stillwater Canyon," bordered by the "Orange Cliffs," extends from Bonito Bend to the mouth of the Green River. This accords with present usage. As shown on modern maps, Labyrinth Canyon extends from the mouth of the San Rafael to Bonito Bend.
with cottonwood and a few oak trees. Made noon camp on right bank. Cooked dinner in the shade of a large rock with sticks of driftwood picked up on the rocks. While eating heard the barking of a wolf, the first sound of animal life, except geese and ducks, heard since leaving the foot of Gray Cañon—the name given to the lower end of Desolation. Pulled out at 2:15 P.M., ran about a mile and a half and stopped to see if we could climb out at a small gorge on the left. Went up the ledge near the river, saw that the gorge widened into a small valley running back 2 miles or more, getting higher until it ended in the mountains. While Beaman took some pictures the Major and Prof. tried to climb out. Only succeeded in getting on to the second terrace; came back, and, as soon as the pictures were taken, we went ahead. The cañon walls grew higher, still continued nearly vertical from 300 to 500 feet; then terrace, another vertical wall, and from noon camp a third terrace and cliff—an occasional small valley on either side, then steep walls. We made Camp No. 60 on right bank at 6 P.M. among the rocks; gathered driftwood for fires and spread our beds under the cliff on a small grassy spot. We were still running up the dip, down the strata and at camp found Carboniferous rocks containing fine specimens of Coal measure, and other fossils. On the steep walls were incrustations of salt that evidently must have percolated through the rocks from the Triassic above. The red homogeneous sandstone had almost entirely disappeared by erosion and we were fast losing the gray. Ran 12½ miles. This was Fred’s 18th birthday. He had promised to make a cake in honor of the occasion but we ran so late that the expected treat was indefinitely postponed.

Thursday, September 14th. Found a rich bed of fossils and decided to remain until afternoon. Spent the entire morning on my map as also did Bishop. Beaman and Clem took the "Cañonita," went down stream about half a mile to take pictures of the cañon walls. Major, Prof. and Jack went up the stream with the "Dean" to examine the rocks. The water has been very smooth since leaving the valley at the foot of Gray Cañon. We ran the entire length of Labyrinth Cañon and so far in this, finding nothing to stop us but sand bars. Can find no place to climb out, and, from the formation, except none this side the junction of the Grand and Green, the commencement of the Colorado, distant we think, about 12 miles. The fossils found were such as had lived in salt water. Dinner on the rocks, when we started at 1:25 P.M., but only ran about a mile when we saw the ledge among which the fossils were found exposed, and halted while the Geologists with hammers in hand made the walls echo. Ran a short distance farther and stopped again to measure the walls of the cañon. Found them to be 1130 feet, measured from a sand bar in the middle of the river. Went ahead again until
4:30 P.M., when we made Camp No. 61 on right bank in the mouth of a gulch which we tried to climb but failed. Tried another a short distance farther up the river and concluded to try it in the morning. While looking along the ledge one of the boys found a small house much resembling a dog kennel. He announced the discovery and most of us went up. Found a small hut or den built under a cliff. It was about 5 feet long by 3 wide and as many high. Near was another about half as large. Fred took up his sketch book and made a drawing of them. Beaman found a corn cob which was carefully preserved. When the Major & Prof. returned they reported more ruins in the cliffs farther around and also brought some specimens of pottery found in fragments. These relics it was decided were left by the Chi-ne-mos who once occupied the country adjacent from which they were driven by the savage tribes. They then took refuge along the Green and Colorado rivers; were driven again, and the feeble remnant of this once powerful people now occupy a few small towns in Arizona, and are known as Moquis [Hopis]. They are descendants of the same race as the Aztecs who had possession of Mexico at the time of the Spanish conquest. Ran 4 7/8 miles.

Friday, September 15th. The “Nell” started early to enable Thompson to reach the junction of the Grand and Green in time for observations. Soon after breakfast Major, Jack, Andy, and myself started to climb out. Fred and Clem hunted around the rocks for relics, and Beaman finished up his negatives. While looking along the ledges, occasionally finding some fossils, Andy discovered a cache under a huge rock. Carefully removing the loose dirt we found a round stone kettle of 4 or 5 gallon size covered with a flat rock. It contained several bundles of split willows tied with cord made from the wild flax, and had evidently been undisturbed since the people to whom it belonged had lived here. The Major recognized the kettle as the work of the Chi-ne-mos and the willows as the material from which they make Pe-too or Bread trays. This definitely settled the question of the nationality of the former inhabitants. Leaving the kettle where we could find it on our return we went ahead. After climbing 500 or 600 feet farther came to a vertical wall up which I climbed by the aid of Jack’s shoulders, let down a rope which one after another passed under their arms and by this help ascended. After another hour’s hard climb reached the summit, which is a vast plateau. To the southeast and on the east side of the Colorado a vast forest of rocks arose in pinnacles. Andy declared at first

“Shinumos, a Hopi name for themselves, which Powell translated as “We, the Wise,” and applied briefly to Pueblo remains. Powell had visited the Hopi towns in 1870. See his account in his “The Ancient Province of Tusayan,” Scribner’s Monthly, vol. XI, December, 1875.
that it was a forest of timber. Named it Rock Forest. After gazing at the scenery and taking some observations descended, passing over the steep ledge by means of the rope. Reached camp near noon, got dinner, and started down stream at 1:35 P.M. Ran through cañon all the way, much of the time with vertical walls from 300 to 500 feet high, then a terrace and another cliff, then another terrace and cliff; the entire height of the cliffs 1000 to 1500 feet. River very shallow. At 4 P.M. we reached the junction, found the boys in camp on the right bank of the Colorado on a sand bank that was continually falling. Back of this was a small bank on which grew a few large willows; then the mountain rose very steep, of mixed sand and limestone. The point between the Grand and Green was very steep with a narrow bank of earth on which grew a few small willows. On the east side of the Colorado a steep mountain to the water's edge. The Green [here] flows nearly east, the Grand southwest, forming the most perfect junction imaginable, and the Colorado nearly south. We were obliged to wade over the sand bar to get our boat into the waters of the latter stream. Dropped down stream about a half mile, and carried our things up to camp, except Bismark and Sandy, who preferred to sleep by the boat. Left the "Canonita" above the bar in the Green and the "Nellie" on the bar. Andy made head-quarters at the junction and we spread our beds on a sand shelf under the willows. The bank continued to fall during the night. Ran 8½ miles. Decided to name the cañon ending here "Stillwater." Did not find a rapid in its entire length, [ ] miles. Major told me this morning of the intention to leave the "Canonita" at the mouth of the Dirty Devil until spring.

Saturday, September 16th. Major, Beaman, Fred, Jack, Clem, and myself took the "Canonita," went up the Green about a mile to a deep Gulch, and climbed to the top of the plateau about 1200 feet, carrying the photographer's instruments. Steward climbed up on the same side, back of camp. We found the top to consist of gray sandstone seamed into deep cracks or chasms, some of which we could jump, and to avoid others were obliged

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The marvelous geologic and scenic features and the abundance of Puebloan artifacts near the mouth of the Green seemed to call for special investigation. During four days' stop the lower part of the Grand (Colorado) River and the country on all sides of the junction was explored, and a plan to ascend Grand River was seriously considered, then abandoned. The descriptions by Jones, supplemented by those of Dellenbaugh and Thompson, are the most complete yet made of this almost inaccessible place.

Beaman comments: "It requires some little nerve to leap across a chasm six or eight feet wide, and so deep that the bottom is not discernible. Often we would stop and throw large bowlders down. For several minutes we could hear them bound and rebound against the sides, then a dull thud would announce that they had struck bottom. A misstep in a place like this is not pleasant to contemplate."
to make long detours over the smooth rocks. Found a spot where pictures could be taken of the canyons of the Green and Colorado. Here we ate dinner. Near, the gray had been eroded leaving a sandy valley in which grew some small piñon pines. Major and myself, leaving Beaman to take pictures, Fred, to [make] a sketch, Jack and Clem to gather pitch, struck out down the Colorado. Went for 3 miles, then turned to the northwest and walked for hours through lovely valleys and alcoves surrounded by steep walls of white rock. At length, after climbing through a steep narrow gorge we came in sight of a splendid view. Towers, columns, pinnacles, turrets, domes, in every direction. Wandered until the sun warned us of approaching night. The Major seemed like one entranced. Said we would call this the "Sin-av-ton-weap." Returned to the rest, left the photographic instruments, and struck for the boat and camp which was reached at dark. Sand bank still falling.

Sunday, September 17th. All of the party with the exception of Bishop and myself again went [up on the] mountain and spent the day in making pictures, taking observations, and wandering among the splendid scenery. In camp we spent the time in work on maps, copying notes, taking observations for time, Latitude, &c. The junction is a place of unsurpassed wilderness, grandeur and solitude. Surrounded by high barren mountains, down which it is almost impossible to climb, it is my opinion that no one has ever seen the junction of the Grand and Green, the commence-

"Near the mouth of the Green River the rocks are brightly colored and eroded into picturesque forms—an amazing landscape. Captain Macomb (1859) described the landscape east of the Colorado below the mouth of the Green:

It baffles description * * * * From the pinnacle on which we stood the eye swept over an area some fifty miles in diameter, everywhere marked by features of more than ordinary interest; lofty lines of massive mesas rising in successive steps to form the frame of the picture; the interval between them more than 2,000 feet below their summits. A great basin or sunken plain lay stretched out before us as on a map. Not a particle of vegetation was anywhere discernible; nothing but bare and barren rocks of rich and varied colors shimmering in the sunlight. Scattered over the plain were thousands of the fantastically formed buttes to which I have so often referred in my notes: pyramids, domes, towers, columns, spires, of every conceivable form and size * * * * Singly, or in groups, they extend like a belt of timber for a distance of several miles. Nothing in nature or in art offers a parallel to these singular objects * * * * Scarcely less striking features in the landscape were the innumerable canyons by which the plain is cut. In every direction they ran and ramified deep, dark, and ragged, impassable to everything but the winged bird.

"See Mr. Darrah's note, p. 235. The phrase was spelled by the Major "Sinav Tu Weap," and translated by Thompson as "Ghost Land." Beaman says it meant "God's Land," but adds, "it seemed no refuge for any of God's creatures—neither bird of the air nor beast of the field."
ment of the Colorado, except our own party and that of 1869. I believe it to be impossible to reach that point save by water.

Monday, September 18th. The Major and myself crossed the Colorado in the “Emma Dean” and climbed out between that stream and the Grand. Found hard work getting up a steep gulch. In several places we were obliged to help each other over the abrupt walls, one climbing up over the shoulders of the other, then lying down and pulling the last one up. Found the top to be much the same as the plateau between the Colorado and Green, only cut by deeper canions. One of these we followed for some miles. Going back from the river it opened into a large valley in which were signs of its having been visited by Indians. A trail let out of it to the east in the direction of the Un-com-pa-gra Mountains. In the other direction the cañon goes down to the Colorado, 4 or 5 miles below the junction but below a big rapid. Spent the day in getting the Topography of the country. Had a good view of Rock Forest 2 or 3 miles to the southeast, and near night found ourselves some 4 miles from camp in a direct line but not less than 12 by the route we were obliged to travel. Ran most of the way to get over the abrupt descents before dark. Reached camp at 8 P.M., and soon forgot hard work in sleep.

Tuesday, September 19th. After redistributing our loads we broke Camp No. 62 at 9:45 A.M., and started down the Colorado. The mountains on each side steep and craggy. Mixed sand and limestone. The water of the river very muddy; in many places almost red. Ran about 4 miles and came to a big rapid; let the boats down by line a short distance on left side, took oars, pulled across, let down past another on right side, ran about 3/4 of a mile and stopped on left bank under a large hackberry tree at the head of another line portage for dinner at 11:35 A.M. Started at 1:10 P.M. and made a short line portage on left bank, ran a short distance and made another long one, then pulled out into big waves, ran but a little way and made a line portage on right bank; from this ran a big rapid, soon another line portage, then a long rapid, then another line portage, and another rapid, and a short distance below made Camp No. 63 in a small valley on left bank under one big cottonwood. Several small ones near, at the head

**Dellenbaugh later qualified this, the 1836 inscription by D. Julien in Cataract Canyon below having been discovered in 1889.**

**Concerning this reconnaissance the Major writes:**

Climbed out with Jones to summit of wall on E. side of Grand. Passed the head of gulch that runs down into the Colorado below three or four miles and found an Indian trail for horses and campfires that were probably made last winter. No doubt but that horses can be taken down to the Colorado at this point. If the Grand should be explored in boats the party could return by this route to the Sierra La Sal or Sierra Abajo during a season when water or snow is abundant, or perhaps by careful explorations water may be found at any season.
of another long rapid. Ran 9½ miles. Cañon walls very craggy of mixed sand and limestone, all carboniferous. Walls usually vertical for from 50 to 400 feet at top, then slope down to the water. Back of camp was a small narrow gulch. Suppose a man might climb out, but it would be hard work. Let down by line 7 times, and ran 2 rapids. Supper came just here.

Wednesday, September 20th. The Major and Fred crossed the river and climbed out at a small steep gorge. Steward and Bishop got the Geology and Topography of two lateral cañons. Beaman took pictures. Prof. and self observations for time, latitude and longitude. About 10 A.M. we, with Jack and Clem took the "Nell" across the river to let down through a rapid ¾ of a mile long. While all were in the water near the head of the rapid the boat got away and shot down stream like an arrow. We made our best time over the rocks along shore, outran the boat, which floated into an eddy. Jack swam out and we soon had it secure. Went below the rapid, left the boat, and back to camp for dinner. Took the "Emma" through all right and Prof. and self finished the observations while the "Cañonita" was being taken through. Made Camp No. 64 on right bank in the sand. Made ¾ mile. The cañon walls were tipped in every conceivable direction; seamed by gulches, very craggy and rough.† Major and Fred came in near sunset. Climbed 1850 feet. Had no water all day except one canteen taken from the river. Slept again with the old familiar sound of rapids roaring.

Thursday, September 21st. Broke Camp No. 64 at 8:30 A.M. Had waited for Beaman to take a picture of a tilted cliff back of camp. Ran about a mile and a half, found a nice little rapid which we ran, and continued to find them until we had run 6. Immediately below the last we let down by line for near half a mile, ran a short distance and let down again nearly as far, then ran 2 rapids and stopped for dinner on left bank among big rocks at 11:40 A.M., at the head of the worst fall yet found in this cañon.‡ Started again at 1:35 P.M. and were 2 hours getting the boats less than half a mile. All hands at each boat. Had the

†Beginning about 10 miles below the mouth of the Green, the channel of the Colorado is marked by rock islands, cross ledges, and many rapids. The cañon walls have been broken by faults, and the strata upturned in a seemingly capricious manner. On modern maps this stretch is shown as Cataract Canyon, and, for a short distance above the mouth of the Dirty Devil, Narrow Canyon. Because of rapids and other obstructions the progress of the boats through Cataract Canyon was about 2 miles a day.

‡Powell writes:

Down we go among the rapids. Huge rocks have fallen from the walls, great angular blocks scattered down the talus and strewn along the channel. The walls too are very craggy. Beaman took a good picture of these crags this morning. The walls have been gradually been [sic] increasing from the junction where they were 1200 ft. high to this point (noon camp) where they are 1600. The west wall
hardest work at 2 points we have had on the trip. Ran a short distance and made another line portage, crossed the stream and stopped at the head of the big rapid. Decided to run and all hands got out their life preservers. The "Emma" led the way, and at the head of the rapid the current drove us on to a big rock, struck on port side just at front end of stern cabin, whirled almost around but righted and went bounding through big waves. Ran into an eddy at foot and waited for the other boats. Soon the "Nellie" came in sight, struck the same rock but farther astern, turned and came down, seeming to jump from one wave to another. The "Canonita" followed close, struck the same rock, but came through safe. Ran about half a mile and made Camp No. 65 on right bank at head of another rapid among big rocks, under the shadow of a cliff wall that rose almost vertical 1800 feet. Stopped at 4:10 P.M. The sun was out of sight, and we, wet to the skin, shivered in the cold air until a fire was kindled and dry clothes put on. The cañon walls this day were usually nearly vertical on the right, and broken into sharp crags on the left, with considerable talus, or sloping bank. Walls increasing in height at camp nearly or quite 1800 feet, and not more than \( \frac{1}{4} \) of a mile wide at top. Mostly limestone, all carboniferous. All of our portages were from the left bank as we could get the best footing on that side. Let down by line 5 times and ran 8 rapids. Ran 6\( \frac{1}{2} \) miles.

Friday, September 22nd. Broke camp at 8 A.M. Ran a small rapid at the head of a rocky island, then let the boats down by line about a fourth of a mile. A hard portage. All hands required with each boat, ran one place [where] we got 2 sticks of driftwood and lifted the boat entirely out of the river. From here ran a short distance through rough water, then made another very hard line portage on the left bank, the first on the right, and made noon camp on the left bank among big rocks. Here Beaman and Clem took a view of the last fall passed, and after dinner went down stream and spent the afternoon taking pictures. Started at 1:30 P.M. and were until nearly 4 o'clock in getting the 3 boats less than \( \frac{1}{4} \) of a mile. Here we found the center cabin of the "Nellie" about half full of water. In order to examine and make the necessary repairs we crossed the river and made Camp No. 66; right bank at 3:45 P.M. Uploaded [unloaded] the "Emma" and "Nellie," put a false rib in each and mended the iron on the keel of the "Emma." The "Canonita" was also leaking badly but did not get across in season to be overhauled. Camp was at head of another long rapid and big fall where we will have

is very bold and grand, nearly vertical. The waters make roaring music at the foot of the cliffs, plunging over falls and whirling and foaming among the rocks. The men work with a will that seems wonderful. Here we have cataracts. Hard work.
hard work tomorrow morning. Worked an hour this morning before we saw the sun, and nearly as long in the water after seeing the last of him tonight. Made 1 3/8 miles.

**Saturday, September 23rd.** Broke camp at 7:35 A.M., and immediately let down over the greatest fall found since leaving Ashley. The water falls almost straight down 4 or 5 feet and the descent is 20 or more feet within 3/8 of a mile. Named these “Ross Falls.” Left the “**Canonita**” for pictures, ran a short distance and let down by line for 1/4 of a mile, then ran a rapid, left Andy to get dinner, and let the “**Emma**” and “**Nell**” down a long shallow rapid. All these from right bank. Ran the “**Emma**” down to the head of another big rapid and went back to help Beaman and Clem over the second rapid with the “**Canonita.**” Made noon camp on right bank just as the General called dinner. He [We?] stopped at 11 A.M. Started again at 1:10 P.M. Let the “**Canonita**” down past the rapid, and both boats ran down to the “**Dean**.” Looked a long time before we decided to run. The river was not more than 100 feet wide at the head of the rapid, waves 6 or 7 feet high, and current 20 to 30 miles. The cañon walls were about 3/4 miles at top, and good footing could be had along the shore, that is, if rocks can be called good footing. Beaman prepared his plate for an instantaneous view, while the “**Dean**” should be passing. We turned the prow of our boat down stream, all the rest on the bank watching, and started down; the first big wave that went over the boat unshipped the starboard oars of both the boys, leaving only the steering oar to turn the craft hard to port. The instantaneous view failed and we went ahead to a long succession of rapids; waited for the other boats then let down for 3/4 of a mile past what some of the men called 4 rapids, but I could see no break. Made Camp No. 67 on left bank between 2 big rapids. The character of the rocks has not changed geologically since leaving the junction. Found several places in this day’s run where the wall was 2000 feet nearly vertical. At camp the river ran nearly west. Wall on right very steep, and high. On left, set back. A large gulch just above camp. Walls a mile wide at top. Made 3 3/8 miles.

*Powell estimated the distance at 1 3/8 miles. He adds:

  Letting our boats [down] over three cataracts by very hard labor. The walls are about 2000 ft. high on right and nearly vertical, but on left are broken and craggy. The scenery is very grand and the roaring of the mad waters is something awful. Stop to repair boats rather early. At the falls huge blocks of rock obstruct the channel, causing chutes and whirlpools, and still the water tumbles down from 10 to 20 feet at a fall. Today the fall cannot be less than 75 feet * * * *

As near as his handwriting can be deciphered, the Major renders this “Rap Falls.” During the afternoon voyage he thought the walls of the cañon “grand beyond description,” towering 2000 or 2500 feet. “The walls are often nearly vertical on right and grandly craggy on left. River still roars—and roars!”*
Sunday, September 24th. Broke camp at 8 A.M. Immediately ran a rapid in a few minutes let down by line, then ran another rapid, then let down by line again, then let down by line 1/2 mile, and ran 2 rapids, the last small, in going a mile and a half, then smooth water a short distance, then let down by line twice over shallow rapids, with smooth water between and made Camp No. 68 on left bank in a small valley where grew 3 small hackberry trees and one cottonwood, at the foot of the last rapid, and the head of another. At 11:40 A.M. unloaded the boats; pulled them up on to the sand beach to dry so that they could be repaired. All leaking badly. After dinner Major, Beaman, and myself started up a lateral cañon that came in just below camp. Kept going until near sunset; found ourselves in a narrow gorge 4 miles from camp. Hurried back, getting in about 8 P.M.—ate a hearty supper of bean soup, warm bread, and hot coffee, spread our blankets and went to sleep. Let down by line 5 times all from left bank, and ran 4 rapids. Made 4½ miles.

Monday, September 25th. The Major and Fred climbed out; Beaman, Clem, and myself went up the lateral cañon, they for pictures, I for its topography. Jack, Andy, Prof. and Steward calked and pitched the seams of the boats. Followed up the cañon, the walls becoming higher and cañon narrower for some 3½ miles; turned to the left, then to the right and found ourselves in a narrow gorge the walls not more than 150 feet wide, and 1200 feet high, while back of them rose other walls fully as high. The cañon ended in a cliff wall some 200 or 300 feet up; this was an opening above which must have been a water pocket, as the water fell in continual shower, forming quite a pool, from which it ran slowly down. In one place the water had hollowed out a deep pool in which the water stood 4 or 5 feet deep. Our only chance of getting by was to creep under and overhanging rock, which we did and reached the extremity of the cañon. Prof. and Steward came while I was sitting at the upper end. After catching and drinking some of the pure water as it fell and making an examination of the rocks, finding some fossils, and a few fine specimens of crystalline sulphate of lime, went down to where Beaman was taking pictures; built a fire, made coffee and ate dinner where the sun never shone. In the afternoon Beaman & Clem remained for pictures, Steward worked up a geological section and I mapped the [Gypsum] cañon to the river; getting in to camp near sunset, B. & C. shortly after dark and the Major & Fred about 8 o'clock. Found up the cañon gypsum enough to scatter over a half of III. In one place a bed 100 feet

*In Thompson's diary this tributary is called Steward Gulch, in honor of John F. Steward, geologist of the expedition. On modern maps it is shown as Gypsum Canyon, the drainage outlet for the Beef Basin country northwest of Elk Ridge.
thick. Steward also found a bed of coral 8 feet thick. Most of the rock limestone. Major and Fred reported having climbed 3100 feet. Had a fine view over the country for 30 or 40 miles each way.

Tuesday, September 26th. Broke camp at 8:30 A.M. and began our day's work by letting down past a long shallow rapid where all hands were in the water; then ran 2 rapids and came to a huge one where the water fell almost straight down 3 or 4 feet. The "Emma" ran through all right. The "Nell" got a little too far out among the big waves which poured over her bow and she made land with her front standing room full. The "Canonita" came in about the same track, and beside nearly filling in front struck a rock, but received no injury. Soon we came to a rapid, or succession of rapids, near a mile long. Let down to near the center and concluded to run the rest. Started out among big rocks and in passing over a reef the "Dean" grazed. The crew of the "Nell" let down past most of the rapid. The "Canonita" followed in our wake and all brought up at the head of another rapid. The crews of the other boats sat on the rocks and watched us over then each boat followed in turn. When they struck the big waves the boats came bounding from wave to wave sometimes seeming to stand poised in air. Ran another small rapid, and came to a long stretch of quiet river. The walls of the cañon closed in, were very steep and near or quite 3000 feet high. It almost made one dizzy to look to the top. Every moment new scenes of beauty were opening and our run for a mile was grand—beyond description. Made noon camp on right bank at 11:55 A.M. A deep gulch or lateral cañon was just below camp—and we took Beaman across the river to get a view looking up it. Started at 2:10 P.M., ran a big rapid the first thing, then a small one and left the "Canonita" for Beaman to take views of the cañon. The "Dean" ran on some 2 miles; the Major selected a spot on right bank for another view, and when the "Canonita" came up the "Emma" and "Nellie" ran ahead a short distance, and we made Camp No. 69 on right bank in a narrow gorge at the head of a big rapid at 4:15 P.M. A deep lateral cañon opened just below camp up which Steward and myself went about 3/4 of a mile. Others not so far. At first the cañon seemed to be the rocky bed of a torrent, not unlike others we had seen, but after climbing 2 or 3 steep walls a scene of beauty presented itself

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The reference is to Dark Canyon—a gorge 1500 to 2000 feet deep and in a few places more than 100 feet wide, that heads in Elk Ridge, trenches Dark Canyon Plateau, and ends at the Colorado River, where it appears as a vertical slot cut into massive, colored cliffs. Its floor, nearly always in shadow, is dotted with water pools, and tiny springs emerge from cool, dark recesses at the base of its enclosing walls. The canyon supports a luxurious growth of cottonwood, boxelder, ash, grapevines, ferns, and many species of flowering plants—a flora that seems far out of place in a region of general
more wonderful than anything I ever saw. The walls rose on either side for 3000 feet. The narrow rocky valley was full of small trees and flowers. A tiny rivulet trickled down, sometimes lost, sometimes pent by the boulders into deep clear pools. We saw cottonwood, willow, a new kind of tree thought to be a species of ash, the Yucca plant, cacti and many strange flowers, while clinging to the rocks were [a] quantity of fern. Birds flitted among the trees, and an insect much like a bee gathered honey from the flowers. The first stratum of rock was red sandstone colored by iron, then a strata of limestone, then sandstone again capped with the white. In the rocks were many fossils, and pendant from the wall were incrustations of salt, colored green by the moss over which the water trickled. It seemed a paradise in the midst of a wilderness, and we called it "Eden Cañon." After supper as we lay on the rocks we first realized the height and narrowness of the walls on each side of the river. Looking up, but a narrow ribbon of sky could be seen. Made today 2 line portages and ran 8 rapids, in going 7½ miles. In letting down past the second bad rapid Prof. Thompson got his foot entangled in the line, was whirled around and fell on the rock, but the Major caught the line and saved him going over. Let down by line twice and ran 8 rapids. Thermometer 100° in the shade at 2 P.M.

Wednesday, September 27th. Waited for pictures of the lateral cañon until 10:40 A.M., then let down past a rapid full of rock, wall about 3000 feet, nearly vertical on left. Set back a little on right. At high water the river evidently fills the cañon from wall to wall. Ran about a mile and made noon camp on left bank in the shadow of the cliff. Beaman took a picture here looking up the river—very fine. Started again at 1:25 P.M. and soon let down by line from left bank; shortly ran a small rapid, soon a big one, and through a very narrow high part of the cañon, where we could not see the sun. Ran another rapid then another, soon another; then through another narrow place, soon into a place where the river widened, walls set back, very craggy. Made another line portage past a bad rapid and made Camp No. 70 at its foot just above another rapid, on a small sand bank; large rocks at water's edge, and just below the mouth of a deep gulch, 2 or 3 small hackberry trees, the only vegetation in sight. Camped at 4:40 P.M. Many narrow deep gulches were worn to the river on the route of this day's run, some ending in the cliff wall, others winding out of sight. Very little vegetation along the banks, occasionally a few willows, sometimes a lone hackberry. Walls of mixed sand and limestone, capped either with red or gray barrenness. Of Dark Canyon Thompson writes: "We have had grand scenes and beautiful scenes, but none where beauty, grandeur and sublimity were so combined in one glance!" Scientifically the canyon awaits exploration. So far as known, it has been traversed but once.
Let down 3 times and ran 5 rapids. At one place Clem was caught by the line and drawn entirely under, but the water being shallow received no injury except a ducking. Looked much like a beaver as he came up dripping. Ran 11 miles.

**Thursday, September 28th.** Broke camp at 8 A.M., ran a rapid the first thing, then through smooth water for near a mile and stopped at the head of a big rapid to wait for the "Nell" and "Canonita" that had stopped for pictures. We were at the mouth of a deep lateral cañon that came in from the left. When the other boats came, the Major and Prof. started to climb out, I to sketch the lateral cañon, the rest to let the boats down and go into camp at the left foot. Got about 1½ miles and returned for dinner. This was the first rapid or portage I ever failed to make with the "Emma." The cañon was grand beyond description, very narrow; the walls rose almost precipitous for 2500 or 3000 feet, in a few places a talus for 300 or 400 feet, but usually very steep. A small stream rippled down through the center, broken into innumerable little cascades in places forming deep clear pools with rocky bottoms. After dinner Steward and myself again went up the cañon to just above the spot where I had been, and met Prof. and Major coming back, having failed to get out. Went back to camp, found a pot of beans cooking, concluded to wait for them, and then pulled out. A slight rain about 3 o'clock. Started at 5 P.M., ran a rapid and to the head of another; landed on a small rock island in the middle of the river, or rather ran as close to it as we could get and jumped out. I took the line, Fred and Jack hung to the boat. Let down over the first part and ran the last. Where the 2 channels meet they rush against the cliff wall on the left, and took hard work to prevent being carried under. Ran into an eddy to wait for the other boats. They came through safe, but all shipped some water. Went ahead, ran 2 more small rapids and came to the head of another. It being too dark to see the finding some wood we made Camp No. 71 on right bank among big rocks, close under a cliff wall 2500 feet high. Spread our beds on a small spot of white sand among the rocks, and just as this was done there came a storm of wind and rain up the cañon. Were obliged to hold our blankets to prevent their being blown away. Soon cleared up, and we saw a splendid sight. Moonrise in the cañon. The river here ran west. The light shone upon a crag far up stream. A few dark clouds were in the field of view, their blackness showing more intense by the bright light. The queen of the night sailed slowly and majestically above the peak, bathing the dark crags and darker water with her silver rays. The foam of the rapids was beautifully shown. Such a sight was worth days of toil. The wind blew hard during the night, piling sand on my blankets several inches. Made today 2 line portages, ran 2 big and 2 small rapids and ran 3½ miles.
Friday, September 29th. Broke Camp No. 71 at 8:15 A.M. Ran a small rapid, then through quite smooth water down a narrow steep cañon, the walls quite smooth at the foot and in rounded crags at the top. Ran the first part of a big bend. From the number of crags in it named it "Mille Crag Bend." 

[The expedition went on down Narrow Canyon to the mouth of the Dirty Devil, where it was reorganized.]

[September 30th. No entry.]

Sunday, October 1st, [1871]. This morning we took the "Canonita" just below the mouth of the Dirty Devil, hauled it ashore and called it under a big rock that had slipped down, one edge resting against the cliff forming a cove just long enough. Beaman left one box of chemicals to use in the spring. We filled it about half full of sand, shovelled sand all around it and bid her good-bye until spring. The "Nellie" went down stream about 2 miles so that Thompson could see if there was any chance of getting to the river that way. Major and I struck out up the west side of the Dirty Devil for the same purpose. The rest returned to camp. We had a hard time to climb to the top of the red sandstone here about 2000 feet high. Reached the top about 2 P.M. Made our observations, and saw that a train could come down the gulch between us and the volcanic range to the west. Saw the Wasatch range with snow. Also snow on the range near [Henry Mountains]. Reached the river at 4:30 P.M., found the boys with the "Dean" loaded with most of the "Canonita's" things in addition to our own. There were in the boat Major, Beaman, Fred, Andy, Clem, Jack, and myself. Sacks were piled in both standing rooms and we were loaded almost to the water's edge. Mound Cañon*

*To facilitate the work of his second expedition Powell made arrangements with Jacob Hamblin to bring supplies to the mouth of the stream which in 1869 had been dubbed the "Dirty Devil." The first supporting party, from Glenview (Glencove), seems to have abandoned its task after crossing the Wasatch Plateau and discovering that the stream thought to be the Dirty Devil was the San Rafael down which the Indian guides refused to go. The second party proceeding northeastward from Kanab lost its way in the rugged country along the foothills of the Aquarius Plateau. Learning of these failures, Powell went to Salt Lake City from the mouth of the Duchesne River July 27, 1871, with the understanding that he would rejoin the expedition at Gunnison's Crossing (Greenriver, Utah) "before the 3rd of September," bringing rations by pack train from Manti. The emergency supplies that reached the hungry boat party a month later (August 29) consisted of "300 pounds of flour, 20 pounds of sugar, and some jerked beef"—a meager allowance for 10 men who by slow stages proposed to traverse 290 miles of river to the Crossing of the Fathers, where additional supplies were expected. It thus became necessary to plan for a rapid traverse with only essential equipment. The "Canonita" was therefore cached, with the expectation that the following year it would serve as transport for a party who would have ample time for scientific studies. In 1872 (June 26-July 13) the "Canonita" was recovered and brought to the mouth of the Paria.

See note 70.
comprises at the mouth of the Dirty Devil. Ran 1 1/2 miles, over a smooth river. Orange cliffs on right and gray sandstone on left bank. Made Camp No. 74 on right bank at 5:15 P.M. Steward came in soon after us, Thompson and Bishop while we were at supper. Reported that animals could come down the gulch [Crescent Wash] up which they went, so we will be able to come in easily. Spread our beds on the sand close to the river, and think it time to retire."

Monday, October 2nd. Put all the things into 2 boats. The crew of the "Canonita" was divided. Beaman to pull bow oar in our boat, to allow Fred to sketch. Clem, bow oar in the "Nell," to enable Bishop to keep his map up, and Andy to ride on the center cabin of the "Nell." This gave 5 men in each boat, and made heavy loads. Broke camp at 7:35 A.M. Soon ran a long shallow rapid, then another small one, then down a wide river until about 10 A.M. We saw the ruins of a house on a point above the valley by a small creek on left. Went ashore and up the cliff. Found 3 walls standing of red flat stone. The building had been about 12 x 22 feet outside, and the wall was about 15 feet high, and near a foot and a half thick. It had opened to the north, which side had fallen down. Longest from east to west. A number of hieroglyphics were cut in the smooth red rock." Further search discovered other smaller ruins, and more figures. Quantities of broken pottery, and chips from arrow-heads were scattered around, with which most of the boys loaded themselves. Made noon camp in order to get sketch of the ruins and figures. This was undoubtedly the site of a Chi-ne-mos town. The gray sandstone had entirely disappeared and the red rapidly running under. Started again at 1 P.M. and ran 11 miles. Ran 5 shallow rapids on one of which the "Emma" stuck, the "Nellie" twice. Saw a ruin on a small hill on left bank near a fine creek [Red Creek] and made Camp No. 75 on left bank at 4 P.M. Prof. and I climbed a red butte [Red Butte] about a mile away, getting up 1215 feet, and back to camp in 2 1/2 hours. Camped in a narrow valley—no wood except dry willows. Made 16 miles.

*In their haste to reach the Crossing of the Fathers before their food supply was completely exhausted the party gave little attention to the wide stretch of river between the tributary Dirty Devil and the San Juan. They passed, without comment, the mouths of the White, Red, Moki, Lake, Hansen, Bullfrog, and Hall creeks and made no records of the prominent sand terraces and the well-marked trail that leads down White and Trachyte creeks to Dandy Crossing—for centuries an established Indian route and later a part of a Mormon wagon road from central Utah to Bluff, on the San Juan River. At Dandy Crossing (Hite) the ranch established by Cass Hite (1883) served for many years as a supply station and post office for the placer gold miners on the river below. 

*Rock houses, artifacts, and remnant agricultural plots characteristic of the Basket Maker and Pueblo cultures are particularly numerous in White, Red, Moki, and Lake canyons.
Tuesday, October 3rd. Broke Camp No. 75 at 7:55 A.M., and ran until 11:50 A.M., only stopping once for a few minutes. The river was wide and most of the time deep. Running 9 small rapids, most of them along with small waves, and some quite shallow; none bad. Made noon camp on left bank, near the mouth of a small clear creek. The orange sandstone about 600 feet above the river, entirely bare—not a tree or shrub on their summits. Climbed out while waiting for dinner and found a deep well or cistern on the top of the rocks about 40 feet deep, containing 6 or 7 feet of water. Started at 2:05 P.M. and ran steadily until 5:10 P.M., when we made Camp No. 76 on left bank in a small valley with a wide bench of sand. Carried wood near ¼ of a mile. The river this afternoon ran in long sweeps, usual course about south-west. Found the longest straight section of the river yet seen. Called it 2¾ miles. River usually about ⅛ of a mile. Ran 3 long shallow rapids, getting aground once. Whenever we ran west the dip was down and rocks rapidly ran under. Estimated that we ran under 1200 or more feet. All Triassic. Hills at camp 600 or 700 feet high, of rounded mounds of orange sandstone. Soft and easily weathered. Ran 12 rapids and made 28¾ miles. Yesterday Andy shot a duck and gave us duck soup for breakfast this morning.

Wednesday, October 4th. Broke camp at 7:50 A.M., and pulled out steadily for about 3½ miles when we came to a long shallow. Wound slowly along among the rocks, striking occasionally until at last the "Emma Dean" hung on the bottom, and soon the "Nellie Powell" was fast. All hands in the water most of the time for an hour in making little more than a mile. The rocks along the bank were quite smooth, rounded at top into small mounds. Underneath these was a stratum of rough heterogeneous red stone, very rough. The dip was nearly south and as we were running nearly in that direction they ran under and gave us trouble. Continued to find shoals with rock bottom, current usually slow but sometimes quite swift. In one of these places the "Nellie" struck with such force as to break a board in the center cabin and until noon one man was kept busy bailing. Made noon camp on right bank on a small spot of gravel, unloaded the "Nellie," pulled her ashore and repaired damages. Started again at 2:30 P.M. and pulled steadily until 5:15 P.M. and made Camp No. 77 on right bank. Landing bad among rocks. All spread our beds beside one big boulder on the only level spot to be found and slept thicker than 3 in a bed. The homogeneous orange sandstone, came to the river at camp and walls about 1000 feet high. A mile or so above camp passed gray beds at the water's edge, curiously worn. In one place 2 long pier-shaped pillars ran far in to the

—The reference to the tilted strata is the Waterpocket Fold, which is crossed by the Colorado River between Hall and Escalante creeks.
river, nearly opposite each other, and the boys named them bridge piers. Rations short, and men tired. Made 20\(\frac{3}{8}\) miles.

**Thursday, October 5th.** Broke camp at 7:40 A.M., and pulled without stopping until 12 M. Ran a small rapid just after starting. The rest of the way nothing worthy of the name. Passed the mouth of the San Juan at 11:30—a very dirty stream about 4 rods wide and 2 feet deep coming in from the east, or left, with bare rock walls. Current quite swift. Its waters colored those of the Colorado, now quite clear, for a long way. A short distance below here Prof. and the Major landed on right bank and climbed the bare cliff wall 700 feet high. We ran about a mile farther and made noon camp on left bank on the sand. Awful hot. Back a few rods rose a steep bank on which grew some willows and a few small oak trees. The wall on this side was back from the river about \(\frac{1}{4}\) of a mile. A deep \(\text{cañon}\) was cut in the smooth homogeneous sandstone, going up which, as it wound along, we came to a sudden turn to the right where grew 6 fine cottonwoods forming the portal to an oblong square eroded out of the solid rock. Estimated its dimensions to be 500 feet long, 300 feet wide, 200 feet high to the sky light, which was in the shape of 2 triangles 400 feet high. In it could be comfortably seated 25,000 people. The resonance was so clear that a speaker could be heard in every part. At the rear and some 200 feet high the \(\text{cañon}\) continued, very narrow, down which must come quite a large stream during a rain. Called it "Music Temple." Mound \(\text{cañon}\) ends at the mouth of the San Juan. On the Orange Cliffs through this \(\text{cañon}\) are small rounded mounds of bare rock, extending for miles in every direction. Monument \(\text{cañon}\) begins where Mound ends."

"Music Temple is representative of the many grottoes, overarched alcoves, and short box-headed canyons developed by springs and seeps in the massive sandstone walls of Glen Canyon. In sharp contrast to adjoining exposures of dry bare rock, their wet walls and pools of clear water on their floors favor the growth of oak brush, cottonwood trees, willows, ferns, and flowering annuals. Pictographs show that some of the alcoves were used as camp sites by ancient Pueblo tribes. Carved on the walls of Music Temple, Dellenbaugh (1871) found the names of Seneca Howland, O. G. Howland, and William Dunn, the three members of the Powell party of 1869 who were killed by Indians on the Uinkaret Plateau. On their voyage down the river in the "Canonita," 1872, Dellenbaugh, Jack Hillers and W. D. Johnson added their names.

"Glen Canyon—the rock-bound trench through which the Colorado passes from the mouth of Trachyte Creek (Hite) to the mouth of the Paria River (Lees Ferry)—was originally mapped as Mound Canyon above the mouth of the San Juan River, and Monument Canyon between the San Juan and the head of Marble Canyon. In a broad sense the two parts are topographically distinct. Throughout its course in Glen Canyon the Colorado flows close to the base of lofty, nearly vertical, brightly colored walls, and, as compared with Cataract Canyon above the Marble Canyon and Grand Canyon below, is a quiet stretch of water. The rim rock and the adjoining back country north of the San Juan, particularly on the Red Rock Plateau, have been eroded
No break, the rocks assuming another shape. Started at 3 P.M., and ran through swift water all the afternoon, running 5 rapids. Two big ones. At the head of one the "Nellie" got aground, and received some hard bumps. The "Emma" struck in the same rapid, but no damage done to either. Made Camp No. 78 on left bank at 5:35 P.M. Just before reaching camp we saw on the shore, among the cliffs, an animal that some called a wolf, others a wild cat. Could not get near enough for a shot. Ran 25 miles. Ran 6 rapids, besides a mile of very swift water that would all be called rapids on any other river. The homogeneous sandstone to the river at camp. All Triassic. Used the last part of our sugar at supper. Have 75 pounds of flour left. Are using about 25 lbs. per day.

Friday, October 6th. Broke camp at 8 A.M., and ran in a general southwesterly direction, but in very short turns in every direction. About 10 A.M. while passing a small valley on the right saw where there had been a recent fire. Pulled ashore, found the fresh tracks of shod horses, and shod men in the sand, and that the fire had burned for some distance along the shore. Supposed these to be sign of [Jacob] Hamblin, who was to be at the Ute crossing by the first of the month and that he had come up the stream looking for us and had found a pass to the river, but as we found no one, went ahead. Shortly saw a monument of rock in the middle of the river. It was surrounded by the water, was about 50 feet high and 20 in diameter. Ran a big rapid and the "Emma" struck a rock just at the forward full [bulk?] head of the stern cabin on starboard side. For a moment I thought a hole was burst through, but except starting the pitch in the seam, no damage was done. The "Nellie" struck on the same rock, but was not hurt. At the head of another long narrow rapid we saw a fox on the rocks. Fired a number of shots and the "Nellie" landed; we were too far down to stop. He was not hit, but so badly frightened that he jumped into the river and went down the rapid, probably drowning, as we saw him no more. I was seated on the front of the center cabin while running this rapid and we struck a rock bow on, causing me to lose my balance. This was the first rapid the "Emma" ever ran without my having hold of the steering oar. Made noon camp on left bank on a smooth rock in the shade of the cliff at 12 M. Started at 2:10 P.M. and pulled rapidly down stream, finding one small rapid, and shortly came to the finest view yet seen on the river, I think. The stream could be seen ahead for 2 or 3 miles, the walls long and wide, of red sandstone; above them and stretching far into mounds, domes, and round top ridges. Below the San Juan, and particularly on the Rainbow Plateau west of Navajo Mountain, erosion has produced a marvelous display of monuments—color-banded towers, buttes, and flat-topped mesas.
into the distance on either hand rise monuments composed of gray and buff sandstone, with thin strata of limestone, the whole forming a beautiful picture, but awfully silent and desolate. About 3 P.M. thought I saw something white waving on the shore, and soon we heard the report of a gun; shortly after saw a man on the bank. Pulled in and greeted Captain Dodds, George Riley and John Bonnemot, the first from the Uintah Indian Agency, the two last miners prospecting. Made Camp No. 79 on right bank at 3:45 P.M. in a small valley at the mouth of a deep cañon creek. Found our rations all right, as also bundle of mail, which was quickly opened, furnishing letters and papers to every man. But little else save news from friends, and the outside world attracted attention for the remainder of the day and evening. The train had left Kanab on the 15th of September, consequently none of the mail was of late date. About August 25th the latest. Learned that Jacob Hamblin and his men had crossed the river and gone to Fort Defiance, leaving Capt. Dodds in charge of our rations and animals, 8 in number. To him we are much indebted. When he parted with the Major and Jack last it was with the determin-

As instructed by Powell, Captain Dodds arrived at the Crossing of the Fathers "before September 25." For two weeks he traveled back and forth along the canyon rim "looking for a sign." Then, thinking that the river party had met with disaster, he was about to return to Kanab, when the "Emma Dean" and the "Nellie Powell" were sighted.

The route taken by Hamblin was known to the Mormon pioneers as the "Ute Trail," the "Indian Trail," and the "Moquis Trail," and led from Kanab eastward along the Vermilion Cliffs, across the Paria River, through the "Wahweap Country," and down the walls of Glen Canyon to the Ute ford and southward along the base of Navajo Mountain. The ford and the trails leading to it are plainly marked in the topography; it is the only feasible crossing of Glen Canyon and until about 1870 was the only one used by white men between Green River, Utah, and the mouth of the Virgin River. (See Gregory, The Kaiparowits Country.) After being visited by the Powell party in 1871, the Crossing of the Fathers was mapped and pictured by John E. Weyss and by Lieutenant L. H. Marshall of the Wheeler Survey. Captain George Wheeler writes in the official report:

This crossing was approached by the party under Lieut. Marshall, U. S. Engineers, by the old Navajo trail leaving Paria settlement (the last point of civilization in Utah), ascending a sandy and barren plateau, and following in a south-easterly direction the foot of the high plateau leading out from the Salt Lake Basin rim to the Colorado River. At a distance of 20 miles a mass detached from the plateau, and called Gunshot [Gunsight] Mountains, is attained, whence passing a narrow slit-like gorge, 10 or 12 feet wide, appears an amphitheater, out of which a trail issues again upon a rocky plain, reaching after a little more than a mile, a deep narrow cañon (represented in the foreground of the view) [now known as Padre Creek], which is descended over precipitous rocks, the debouché from which opens upon one bank of the Colorado (elevation 3,193.3 feet). Slight water ripples mark the line of the ford, which is reported as the only one for 300 miles, which of itself is only practicable, and then on horseback, at low-
For sectional maps of the rivers showing the topography in greater detail, see *Utah Historical Quarterly*, 1947, vol. XV, pp. 33, 37, 121, 126, 130 and 149.
tion to find a route in to the mouth of the Dirty Devil and bring us supplies at that point if possible. Went far enough, in company with Hamblin, to determine that they could reach the Colorado there, returned to Kanab, found a missive telling them to come to the old Ute crossing, did so, and remained with our things until our arrival. Had been anxiously looking for us since September 25th. Ran [ ] miles.

**Saturday, Sunday and Monday, October 7th, 8th & 9th.** Everyone busy in finishing up maps, records, &c., to be sent out by the train on the 10th, and in writing letters. Major Powell and Hillers will go out with the train to Kanab, then to Salt Lake to procure things for the winter. We will go on down the river to the Paria, reaching there about the first of November, where we will meet a train and go to Kanab. Capt. Dodds and the miners go out with the train. Saw gold washing here for the first time. These men say that there is gold all along the river, although they have not found it in paying quantities yet. Dodds told me that it was the intention of Riley and himself to prospect the canions of the Green this winter, build a boat at Uintah and go down the Green and Colorado next summer. Am much afraid they will be wrecked. While at the junction of the Grand and Green received an injury on my right ankle that is now troubling me very much, as it is a swelling at my right knee, which I fear is rheumatism. Nights cold, but pleasant.

**Tuesday, October 10th.** This morning witnessed the novel sight to most of us, of packing the things to go out on horses; bid the party good-bye and saw them go up the steep rocks to the trail that crossed about a half mile below camp. Everyone so tired that we took a rest. Steward complaining a good deal.

**Wednesday, October 11th.** Prof., Bishop, Beaman and Clem, took the “Emma Dean” and started up the river to be gone 2 days, intending to climb out to see the country, get pictures and

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This report of gold carried to the Utah settlements by Captain Dodds foreshadowed the mining boom of the eighties during which placers were worked on 21 bars in Glen Canyon, some of which were profitable. To the Indians, the miners were unwelcome. It appears that the Paiutes, also the Utes and Navajos dreaded their coming: “if they find any mines in our country it would bring great evil.” Probably because they were thought to be miners who had crossed the Grand Canyon, the Howlands and Dunn, members of Powell’s 1869 expedition, were killed by the Shivwits. The history of mining in Glen Canyon is recorded by Gregory in *The San Juan Country.*
C. [etc.] Steward too unwell to sit up. With Fred to take time, I took observations for time and latitude. This with waiting on Steward kept all 3 of us, Andy, in camp, busy. Am too lame to climb out. For the first time am off active duty. Day quite cool, and night more so.

**Thursday, October 12th.** Steward yet unable to sit up. Had fever in the morning and complains of great pain. Day very much like winter. Sun obscured by clouds part of the time. Thermometer down to 35° in the morning, reached 65°, then went down to 48° at night. Barometer showed falling weather, the clouds betokened snow, and soon after dark a cold rain began falling. Between pain and cold got very little sleep. The up river party returned. Reported going up stream about 5 miles. Found among other things some Chi-ne-mos hieroglyphics.

**Friday, October 13th.** Prof. and Bishop climbed out among the monuments. Beaman took some pictures and cached a box of chemicals to leave until Spring. Steward able to sit up but a few minutes. I on the crippled list, the rest resting. Day more like December in Illinois than October anywhere, unless it be in the polar regions. Ice this morning ¼ inch thick. Thompson and Bishop reported Mount Seneca Howland, a high mountain some 10 miles east, white with snow, and covered with clouds—still snowing. Nearly everyone in camp slept cold.

**Saturday, October 14th.** Prof. and Bishop again went out following the trail toward the Paria 4 or 5 miles. About 11 A.M. we saw 2 Indians on the trail above camp who soon came in. I met them, shook hands, and the elder embraced me putting his cheek to mine several times to signify that we were friends. After shaking hands all around, they were seated; we had a smoke, then the old man produced some letters from the agent at Fort Defiance stating that “Agua Grande” the bearer, was influential chief among the Navajos, was peaceably disposed and recommending him to any white men he might meet. Neither could speak any English, but told us by signs there were 9 in the party, that they were travelling over to the settlements, had

"The illness of Steward proved to be serious. He was too weak to walk or go on horseback and in camp suffered continuously. After being taken to Kanab he slowly recovered some of his usual good health but thought it wise to sever his connection with the expedition and return to his home in Illinois.

"Because of his physical condition Jones was unable to work for nearly two months. Clem Powell reports that he was treated as a hospital patient on the way to Lees Ferry and on the overland trip to House Rock Springs. On November 11 he was taken by special conveyance to Kanab, where "house remedies restored his health."

"The prominent dome-shaped mass named in honor of Seneca Howland, a member of the Powell expedition of 1869, was called Sierra Panoche by the Macomb expedition of 1859. On the official government maps it bears the name Navajo Mountain."
crossed the river at the ford, and were seeking grass for their ponies. As the dinner hour approached the younger of the 2, evidently the old man's son, went upon the rocks and called the rest of the party. Fortunately they did not get in until after we had eaten. Shortly after they came down the cliffs leading their ponies, turned them out to pick the scanty herbage, then greeted us, several insisting on showing their friendship by hugging. There were 8 men and one squaw. The men were the finest looking Indians we have seen, most of them tall, all straight and well formed, several with [the] long black moustache said to be peculiar to this tribe. They soon finished up the remainder of our dinner, then watched us pack up and prepare to leave. Bid our savage friends good-bye and broke camp at 4:20 P.M., the "Nell" in advance with Hattan at stroke and Bishop in bow. We fixed a bed on the center cabin for Steward, who was unable to sit up. In the "Emma" Beaman pulled stroke and Clem bow oars, while Fred occupied the chair and sketched. The walls were of red sandstone from 100 to 500 feet high. Ran 3 miles past the Ute ford and made Camp No. 80 on left bank on the sand under the cliff wall at 5:15 P.M. Steward in a good deal of pain.

Sunday, October 15th. Steward spent a very restless night. Did not break camp. In the afternoon Prof. & myself crossed the river and climbed the low rocky hills, getting up about 500 feet. Saw a great many of the isolated buttes that rise above the general level of the plateau and are called monuments." Also a long upheaval far down the river supposed to be an immense plateau below the Paria River. Back to camp near sunset. Passed a restless night, suffering with Rheumatism. Steward slept quite sound. Found on the hills pieces of igneous rocks and broken bits of Lava, tending to show that the mountains north of us are extinct volcanoes. The plateau on both sides of the river is probably Triassic. The monuments above the plateau Jurassic, all sandstone.

Monday, October 16th. Waited for Clem to get a picture. Morning very cold. Broke camp at 10:10 A.M. and ran down a smooth river, with the exception of 2 small rapids, with nearly vertical walls of red rock on both sides from 50 to 400 feet high. Occasionally caught glimpses of the monuments on top composed of red and gray sandstone. Made noon camp on left bank on a narrow strip of sand, with a wall 400 feet high back. Quite warm in the sun, but uncomfortably cool in the shade. Steward seemed

South of the Colorado and east of Navajo Creek the Rainbow and Kaibito plateaus are famous for their display of mesas, columns, and pinnacles that rise 200 to 800 feet above the general surface. The "bits of lava" mentioned by Jones must have been pebbles carried downstream. No igneous rocks are exposed in Navajo Mountain, and the rocks in adjacent regions are sandstones.
a little better but unable to sit up. Started again at 2:10 P.M. and pulled without stopping, seeing no special change in the rocks. Passing the mouth of one small cañon, ran 2 small rapids, and made Camp No. 81 on left bank at the mouth of a small, clear stream that came down a small lateral cañon. Bank very steep and covered with a thick growth of willows, among which we hunted an hour to find wood enough to cook supper and breakfast. The sun went out of sight just as we made camp, and the air soon grew quite chilly. Prof. went up the creek. I was too lame to travel. A long rapid just below camp sounded like wet feet in the morning. Ran 4 small rapids. Walls at camp rougher, from 300 to 400 ft. high. Ran 10 3/4 miles.

Tuesday, October 17th. Last night was cold. Thermometer down to 25° above zero at daylight. All slept cold. Suffered a great deal with my leg. Sun rose for us at 8 A.M. After breakfast Prof., Bishop and Fred climbed the wall back of camp and on right bank of the creek, for observations. The sun soon warmed the earth and made things more pleasant. The climbing party returned at noon. They saw the same elevation seen on the 5th supposed to be beyond the Paria. Also beyond they saw what was supposed to be the great Kibab [Kaibab] Plateau. No monuments down the river. Clem made 2 fine views of the river cañon. The creek that came in below camp was about 15 feet wide, a foot deep, clear and cold. It evidently drains the south side of Mount Seneca Howland and rises far toward the Navajo country, so its name was declared as "Navajo." Broke camp at 2:10 P.M. Ran a small rapid and pulled for about an hour through smooth water and stopped on right bank for a picture looking up the cañon. After this ran another small rapid, then smooth water until 4:40 P.M. and made Camp No. 82 on left bank among big rocks that had fallen from the cliff. A small spot of sand afforded just room enough for beds. Andy made the kitchen on a large flat rock. The walls of the cañon this day were nearly vertical, from 400 to 800 feet high, in many places quite narrow, of red Triassic sandstone much colored with iron. Where the pictures were taken several warm springs came out of the cliff wall. Ran 2 rapids, and made 6 1/4 miles.

Wednesday, October 18th. Waited for pictures until 10:55 A.M., then broke camp and ran a mile. Stopped on right bank at the mouth of a small clear creek that came down a deep narrow cañon. Decided to wait until afternoon to get pictures when the sun would be right, so made Camp No. 83 at 11:10 A.M. In the afternoon Thompson and Fred went up the creek cañon

*Navajo Creek and its branches drain the Navajo Indian Reservation between Navajo Mountain and the Echo Cliffs. They occupy canyons sunk deeply in the surface of the Kaibito and Rainbow plateaus.*
a mile and a half but found no place to climb out.™ The walls grew narrower the farther they went. At the river they were about 100 feet wide, and 500 feet high; at the point reached by them, about 40 feet wide and 800 or 900 feet high. They, as well as the walls along the river, about the same height of the smooth red homogeneous sandstone. All Triassic. At the mouth of the lateral cañon stood a tower of rock that rose isolated to the height of about 400 feet and not more than 25 by 50 feet at the top. Our beds were spread on the sand near this rock that looked weird in the faint moonlight. Sun rose for us at 7 A.M. and disappeared at 4:05 P.M. Slept comfortable the first night for a week. Ran one mile.

Thursday, October 19th. Sun arose for us at 7:35. Broke camp at 9:25 A.M. Ran until 10:45, passing 2 small rapids but no waves, and made noon camp on left bank on a small sand beach, at 10:45 A.M. Cañon walls grew higher and narrower. At noon camp about 1200 feet high, and not much wider than their height. Very much discolored with iron. Presented a very somber appearance. A short distance above camp on right bank, the water of a small gulch falls when running near 200 feet into the river. Clem made 2 views of the spot. In several places this morning the walls were seamed vertically, cracked from top to bottom. Started at 2:05 P.M. and ran about half an hour and stopped on right bank for pictures just below where the river turns from east to south and again to west very shortly, leaving a round smooth wall of rock on the right. Crossed to left bank and made Camp No. 84 on a small sand bank. No timber—a very few willows, but driftwood enough for fire. No change in the cañon walls except at camp a thin stratum of limestone about 200 feet above the river. The dip seemed to be nearly north, but very slight. The sun went behind the cliff at 4 P.M. Ran 2 small rapids, and made 6¾ miles.

Friday, October 20th. Last night was quite warm but the wind blew the sand over us. The Barometer indicated stormy weather, both at the time of the observation last night and this morning. Waited again for pictures and did not break camp until 10:35 A.M. Then ran until 11:20 and stopped on right bank for a view of the cañon walls. Made noon camp opposite, on left bank. The sand blew over everything. Walls of the cañon getting higher. At noon camp about 1000 feet. A thin stratum of limestone about 150 feet above the water, but only appearing occasionally. Started at 2:10 and ran until 3:10 P.M., when we made Camp No. 85 on the left bank at the mouth of a deep gulch, in the nearest approach to a valley found in this cañon. There were

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The reference is to Wahweap Creek, which drains the "Wahweap Country" east of the Paria River. Because of the high rock tower at its mouth the stream was originally mapped as Sentinel Rock Creek.
evidences of the valley having been visited both by people and horses quite recently. A small shanty of sticks was found, as also a small clay jug, both probably the work of the Navajos. Whether the trail goes up the gulch or down the river we do not know yet. The cañon walls grew higher, reaching about 1200 feet above camp, then ran down to 800 feet at camp. All red Triassic sandstone. Below the gulch where we were camped the wall on the left rose in jointed structure looking very much like an upheaval, while just below that the cliff was sloping and a bank of beautiful bank of [sic] maroon-colored sand stretched from near the top clear to the river. The wind blew a gale all the afternoon. Ran 5¾ miles.

Saturday, October 21st. I broke down entirely this morning, and was obliged to lie on my blankets all day. Suffered a great deal but tried to be as cheerful as possible. Prof., Bishop and Fred went down the river and climbed the wall over the bank of sand mentioned. Reached the height of 2400 feet. Had a good view of the country, found it very desolate. Fired some shots and found the echo to last 20 seconds. Named the point where they were "Echo Cliff." Saw a good camp at the mouth of the Paria, some 3 miles below this camp.

Sunday, October 22nd. In camp all day. Steward able to sit up but little, I not at all. Several others complaining of rheumatism. Spent a wretched day and night. Weather quite cold.

Monday, October 23rd. Broke camp about 8 A.M. Steward occupied the chair on the main deck of the "Emma." I lay on the deck of the "Nellie." Ran 3 miles and made Camp No. 86 on right bank just above the mouth of the Paria River at 9:10 A.M. As soon as camp was selected Fred spread my blankets among the willows. I hobbled to the spot, lay down, and no one knows how long before I will leave them. This is one of the crossings of the Navajos, and the Mormons used to keep a guard here; not necessary now as the Indians do not raid. This seems to be an axis. The rocks change suddenly both in dip and structure. The limestone appears, and just below camp is a big rapid. This is the end of our journey by water this year. Here the boats will be cached and everything left, not necessarily needed, until

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80 A high ridge of wind-blown sand near Echo Peaks extends from the bottom to the top of the canyon walls and provides the only means of access to the highlands above. It is described and illustrated by Gregory in Geology of the Navajo Country.

81 From Echo Peaks, which rise about 2000 feet above the Colorado River, the Echo Cliffs extend southward in Arizona to the vicinity of Tuba City. They are parts of a zone of upturned rocks which have been broken and eroded into picturesque domes and pinnacles.
On the right bank near our landing lay a rough flat bottomed boat built by the Major and his party who crossed here last year on their way to the Chi-ne-mos towns, Fort Defiance & San Ta-to [?]. Walter Graves had painted on the side of the boat the name "Cañon Maid." It was a sorry looking craft, but would probably hold together to cross the river. At camp was a small valley surrounded by cliffs. Opposite low walls rising back, down which the trail comes from the Navajo country.

[October 24th-27th. No entries.]

Saturday, October 28th. The week has been spent in finishing up maps, notes and sketches, taking and working observations, and examining the surrounding country. Find that one trail crosses the Paria, a stream about 50 feet wide, and 1 1/2 deep; comes from the north, and is tolerably clear, goes down the Colorado some miles, then ascends the Kibab [Kaibab Plateau] sometimes called the Buckskin Mountains, thence nearly west to Kanab. The other trail follows up the Paria about 30 miles to where the Mormons have some cornfields, then runs southwest to Kanab. We can do but little more except wait for our train. This is growing wearisome to me, as I am compelled to lie on my blankets most of the time. Am able to walk a few steps by the aid of a pair of crutches that Fred has made me. Steward is able to walk around, but gains slowly. Has announced his determination to return home as soon as we reach Kanab. About 9 A.M. we heard a shout across the river and upon some of the boys going down they saw some white men and a number of Indians. Pulling across they found Jacob Hamblin, I. C. Height [Haight], George Adair, and Joseph Mangrum [Mangum]. With them were 8 Navajos from the Agency at Fort Defiance. Hamblin and his party had been over to make a treaty with the Indians, and put a stop to raiding if possible. Had succeeded to his entire satisfaction, and had opened trade with them, and his party were carrying the finest blankets I ever saw over to the settlements.

According to the plans adopted by Powell, the river traverse for 1871 was to end when the expedition reached the mouth of the Paria and to be continued in the summer of 1872. The intervening time was to be given to land surveys.

Walter Graves, as topographer of the Wheeler Survey, later made the first map of the region that includes the lower Paria River, the Marble Canyon of the Colorado and the Echo Cliffs. He had been with Powell in 1870.

In 1871 and for many years thereafter the most used route for pack trains and wagons from the mouth of the Paria to Kanab followed the base of the Paria Plateau and the floor of House Rock Valley, crossed the northern end of the Kaibab Plateau, and continued along the Vermilion Cliffs past Navajo Wells. A much more difficult route was the trail, still occasionally used, that ascends the east wall of the Paria Canyon near its mouth, crosses Clark Bench, descends to the floor of Paria at the abandoned site of Adairville, follows the river northward to Paria, then joins the House Rock road on the flat lands east of Buckskin (Kaibab) Gulch.
They were under the charge of Co-ne-co, a second-grade chief. Were well formed, and for the most part good looking savages. There were 8 in the party, most of them young men, several with a soft black moustache. They could speak but few English words, but by means of these and our limited knowledge of Spanish and through signs, we were able to understand each other quite well. Their things were crossed in our boats, their animals swimming. Two of the younger members of the party were going to Kanab to spend the winter among the whites.

**Sunday, October 29th.**

**Sunday, November 5th, [1871].** Very cold with some rain and snow. Haight and party remained with us. He is an agreeable man in camp. It is hard to believe him guilty of the crimes laid to his charge [the Mountain Meadows Massacre]. Can it be that he would sanction and assist in the murder of women and children? Night cold. Suffered a good deal.

**Monday, November 6th.** This morning Haight, Riggs, Mangrum and Joseph Hamblin [Jacob's son] started for Kanab. We got under way about 3 P.M. Riley saddled his gray horse "Doc" for me. Fred led him up to my bed, spread a blanket over the saddle, then he and Beaman lifted me on, wrapped me up and I rode to camp. Had 5 horses packed and 5 riding horses. The boys took turns in riding. Good-bye to camp at the mouth of the Paria. Two long cold weeks of suffering have been spent there. Bishop and Andy ahead, found a little water at dark and we made camp. Fred was on hand to take care of me. Made [ ] miles.

**Tuesday, November 7th.** Last night very cold. Up early. Riley got the horses in before breakfast which was before daylight, and we started soon as possible.

**November 8th, 1871.**

**Entries for October 29 to November 4 inclusive are missing from the manuscript, probably because Jones was ill. From the records kept by Thompson, Clem Powell, and Dellenbaugh it appears that by October 30 the expedition was ready to leave its camp at the mouth of the Paria. The boats had been stored and caches made of the surplus equipment but no means of transportation was available. The men employed to bring saddle horses and rations to the river on October 29 "took the wrong trails" and did not arrive until November 4—10 days after leaving Kanab.**

**At this point there is a break in the manuscript, with no entries between November 7, 1871, and March 31, 1872, found in Vol. 1 of the original diary in the New York Public Library. However, in Vol. 2 of the manuscript diary are found entries covering part of this period, together with some pages of compass bearings and barometrical readings. The entry for January 1, 1872, is illegible in part, and all that may be deciphered reads: "Beaman walked to [ ] spent the day in hanging out the [ ]. After a [ ] to Kaivav. [ ] their into the party at the School House. Major got into camp about**

Tuesday, January 30th. Spent the morning in fixing things for another trip. To Kanav in afternoon. Rode home with Mrs. Thompson. Then [illegible] and McEntee triangulated around red mounds below camp, on the line. Dodds is measuring from 1500 ft. to 3000 ft. [of the base line] per day. Weather splendid, but nights cold.

Wednesday, January 31st. Spent the morning in mending clothes, the afternoon in Kanav for a new pair of boots.


No other journal entries proper appear until January 29, when the journal is kept consecutively to February 26.

From the diaries of Jones’s companions, his movements during this gap in his journal may be reconstructed. When his journal lapsed in November, his leg was in bad shape, and on November 11 Thompson took him to Kanab for medical attention. On December 13 he was reported by Thompson as being at Kanab, “getting things ready” for field work. On December 19 he resumed his topographic mapping, first the Vermilion Cliffs west of Kanab, and subsequently the Kaibab and Uinkaret plateaus, work which occupied him through most of January, February, and March. His barometrical readings place him at “Camp Kaivav” on January 15, at Navajo Well on January 16, at “Geodetic Point Kaivav” on January 17, and at House Rock Spring January 19, 21, and 23. On January 27 Bishop’s diary records that Jones and Dellenbaugh had ridden into Kanab from Eight Mile Spring and joined in a festive evening with some Navajo visitors. At this point Jones’s own journal again picks up his story.

See the sketch of W. D. Johnson, pp. 499-503.

Pipe Spring is by far the most important source of water along the whole extent of the Vermilion Cliffs in Utah and Arizona. It was a much used meeting place for the scattered Paiute clans and a camp-site for the raiding Navajos. Scouts of the Mormon Church discovered the spring in 1856 and in 1863 James M. Whitmore established “squatter rights” to it by constructing a dugout cabin and bringing in a small herd of cattle. On the death of Whitmore (1866) the site of the spring was claimed by the Mormon Church, whose leaders saw its strategic position—a center for a large cattle industry; a supply point for prospective emigrants to Arizona; and headquarters for the military forces charged with protecting the southern Utah settlements from the Navajo raiders. It is reported that in 1865 six families lived at Pipe Spring and cultivated 50 acres of irrigated land. In 1868 Bishop Anson P. Winsor was instructed by the Church officials to build a fort—the famous “Winsor Castle,” completed in 1870-71. In 1875 the holdings of the Church passed to private ownership but continued to function as a ranch until 1923, when the spring and a few acres of adjoining land were designated by the Federal Government as the Pipe Spring National Monument. In the days of Bishop Winsor, Pipe Spring was not only a military outpost and a ranch that provided livestock for slaughter at places as far distant as Salt Lake City, it was a Federal supply point for prospectors, missionaries, explorers, and for the pioneer settlers in the Kanab and Parunuweap valleys. Here Jones and
runs through the valley all the way. On the right are, first, the line of low Triassic hills that begins near the Navajo well, and continues to Mt. Trumbull. Back of these the Vermilion Cliffs. On the left broken country to the Kaivav Mountains that are covered with snow. Staid at Bishop Windsor's. Had a pleasant visit.

**Friday, February 2nd.** From Geodetic point A to south end base line 6 P. Climbed mountains back of Pipe Spring to monument A. Took some bearings. After dinner started for camp in company with Mr. [Jehiel?] McConnell of Kanab. Met the Major, wife, Vina, and Jack about 4 miles out, the 2 first on their way to the states, Vina going home to Glen Cove, Jack to St. George to bring back the team. The Major will go to Washington and not return until June, probably. Got into camp shortly after dark. Began raining and McConnell staid all night. Bishop moved to Kanab. P. going away as soon as his map is finished. Major settled up with Beaman last night and discharged him.

**Saturday, February 3rd.** Fred went to Cottonwood Cañon. The rest went to Kanav. Andy and Joe [Mangum] drew a load of wood. I kept camp alone except the company of 2 Pa-Utes, who staid as long as they could beg anything, then left for Pipe Spring, where the best [rest?] of the tribe have gone.

**Sunday, February 4th.** All hands spent the day in camp. Bonnemont [Bonnemort], Riley, & Clem came into camp about 4 P.M., having ridden from Stewart's Ranche, on the Kaivav Mountains today. They, Bonne & Clem, have been gone about 3 weeks. Clem got no pictures, thinks his bath was tampered with before starting. Bonne says he will leave us in the morning, and go with Riley. A slight rain in the evening.

**Monday, February 5th.** This morning Bonnemont settled up, bought a saddle, and he and Riley went to Kanav. They will undoubtedly move together again. Joe hunted horses. Mc took a horse to the shop. Clem and I took a load of things to the commissary, and while he prepared materials to try the pictures again, I took an inventory of things. Beaman says he will start for Salt Lake tomorrow. Fred went beyond Cottonwood Cañon.

**Tuesday, February 6th.** Fred and I took observations for time, Fred for a circummeridian for latitude but failed on account of clouds. Mc had horses shod.

**Wednesday, February 7th.** Fred and self took circummeridian for latitude at north end of base line, and I worked it up. Not his fellow topographers of the Powell and the Wheeler surveys in 1871-72 obtained most of their beef, mutton, butter, cheese, grain, vegetables, and some of their saddle horses and camp equipment. In 1871 the telegraph wire from Salt Lake City to Toquerville was extended through Virgin City to Pipe Spring.
a good observation. Dodds' men came in evening to work on the line.

**Thursday, February 8th.** Fred and self took circumeridian observation for latitude at N. end of base line, and worked it up = 37° — 02' 23'' 3 = 14,863.5 ft. north of Arizona line. Do not know what the others did. Day warm and [illegible] out. 10,963.5 ft. on Dodds' measurement. Longitude of Salt Lake City 111° — 53' 30''. Difference of time at St. George 6 minutes and 42 seconds, as determined by Prof. Marven [A. R. Marvine] of Lieut. Wheeler's expedition.

**Friday, February 9th.** Fred and I found the boundary line between Arizona and Utah, and planted a star for the accommodation of Kanab. Clem fixed his things for pictures. Slight rain near night. Weather warm.

**Saturday, February 10th.** Thompson and Mc went to the south end of the base line and Fred and I to Monument C on Lost Spring Cliff to triangulate. Wind very high. Got into camp at dark. Found old Margats, a Pa-Ute in camp. He agreed to show us a route to the Colorado from Stewart's Ranch for a blanket. We have been waiting since Tuesday for Clem to get ready.

**Sunday, February 11th.** Distance from north end of base line to Arizona line 14,863.5 ft. Distance from Arizona line to camp [ ] ft. Staid in camp all day. Mc and Andy went to Kanab. Three prospectors made camp across the creek from us about the middle of the afternoon. They have been lower down on the Colorado. Went in from St. Thomas, crossed the river, and went up to the mouth of Diamond River [Creek]. They intend going across the Schoompa [Skitumpa?] Mountains to the Sevier [Sevier] River. Dodds' men came up in the evening & staid all night. A heavy rain, with thunder and sharp lightning just after dark. Soon cleared up and froze quite hard.

**Monday, February 12th.** Fred and myself went to the right-hand cliff of Cottonwood Cañon, to the signal station that Fred and Mc built about a week ago—Signal Station No. 5. Travelled nearly northwest through Kanav Gap, then through the valley to Wolf Spring, then about 2 miles farther to the foot of the cliff; left our horses and climbed 1800 feet in an hour. First about 1500 feet of talus, of sand and rock, then 15 or 20 feet up a cliff wall where Fred first climbed up some cedar poles, then drew the things up with a rope. Then up a narrow gorge between cliff walls to the top. The storm last night was snow on the mountains, and was still about an inch deep. Climbed a pine tree 40 or 50 feet, drew up the Gradientor by a rope, and got some bearings in a perfect gale of wind. Did not get all we wanted and will probably go back tomorrow. Got in at 7:15 P.M., tired, and cold. Thompson & McEntee went to the lower
end of the line for bearings. The cliff bed Triassic. Joe's father sent for him, and he must quit.

**Tuesday, February 13th.** Wrote letters and worked on the observations in the morning. After dinner Fred and I started for Wolf Spring. F. rode Betsy, I Nugger. Packed old "Gauger" [Yauger ?]. After getting well started, I went to Kanav for the mail and [illegible]. Fred to go on and make camp. The mail brought us nothing, the mail road being still blocked with snow. Got to the spring at 7 P.M. and found camp within a few rods under 2 cedar trees. Saw the fire when a mile away and raised a shout which was answered by Fred. Cooked supper, made our bed, and by the light of dry cedar limbs read an hour or more, then to bed and slept, disturbed only by the howling of the coyotes; a sound however, we were too well acquainted with to give us any alarms. Night the warmest of the winter, so far.

**Wednesday, February 14th.** After breakfast we climbed the same cliff and tree as on Monday, lashed the instruments fast and measured from south end of base line to Mt. Trumbull. Were in the tree from half past 10 till one o'clock, then down, packed up and into camp near sunset. Met some of the Kanab folks out hunting stock to make up their cooperative herd.

**Thursday, February 15th.** Mc and I took load of things to Kanab store. Found the settlement very busy in selecting out stock. Seventeen Navajos came in today and 5 yesterday. They are not as fine looking as the band that were here a short time ago. Joe quit work this morning.

**Friday, February 16th, 1872.** Capt. Dodds drove in the horses that were near camp, then I went about 8 or 9 miles toward the Kaivav Mountains for the rest. Got in about noon. Found the tents and extras all gone to Kanab. Packed up and Andy, Fred, and Clem started for Eight Mile Spring, while Thompson and self took one pack horse and went via the towns. Found Dodds and McEntee there who drove old Dick out to camp. I got there after dark & found my gun missing. Rode back to Kanab, found it and slept in the Hogon [hogan]. Night quite warm.

**Saturday, February 17th.** After breakfast with Bishop rode to Eight Mile, found all the party gone to the Navajo Well except Fred. Packed Buckskin and started on the old trail for the Kaivav at 2 P.M. Traveled through a valley of red sand much cut by quickly [?] for 7 or 8 miles, then struck the Carboniferous and passed over a succession of small hills, gradually rising toward the mountains, until night, and made a dry camp between a cedar and pine. Night warm.

**Sunday, February 18th.** Up at daylight. After breakfast climbed the mountain to Signal Station No. 4; triangulated from that back to camp, packed up and got to Eight Mile Spring before sunset and had a drink of cold water. Signal Station No. 4
1735 feet above Eight Mile. Found the rest of the party in camp. Mrs. Thompson climbed to Geodetic Point "B," 1500 feet above Navajo Well. Very high wind and some rain in the night.

**Monday, February 19th.** All the party except Fred and I went via Kanav to camp near the gap. We went to Monument "C" on Lost Spring Gap cliff to triangulate. Wind very high. Got into camp just above the gap about 4 o'clock. Camped under the rocks on the right side of the creek. Very sandy, but little wood and a very poor camp. McEntee quit today. Expects to make his fortune in mining with Riley and Bonnemont. Alfred Young began work, taking care of the stock. Jack got back from Beaver Saturday and was waiting for us.

**Tuesday, February 20th.** Spent most of the day in looking for stock. Mr. & Mrs. Thompson, Dodds, and Jack went to Kanab. Came to camp that way in the evening. George Adair is to begin work in a few days. Is to help Dodds get our rations to the river.

**Wednesday, February 21st, 1872.** Thompson, Fred and self spent the morning in platting triangles. Went to Kanab in afternoon for rations. As Alfred did not find all the horses, we will not start tomorrow. Wm. Johnson will begin work in 2 weeks, as soon as his school is out. He will be on the Topographical maps.

**Thursday, February 22nd.** Dodds and self looked up 3 head of missing stock, then went to Kanab. All hands took dinner with Bishop. Adair came to camp in evening. Rained in the night, but Jack had pitched a tent for T-A-J-&J [so] we were dry. Mr. & Mrs. T[hompson] have one of the shelters, the rest a wagon cover.

**Friday, February 23rd.** Broke camp at 9:30 A.M. Packed 6 animals, & rode 10. Headed for Stewart's Ranche in a cañon [Jump Up Canyon] in the Kaivav, in a southeast direction. Struck the Carboniferous about 6 miles from camp. Gradually up all day. Travelled about 22 miles, turned into a small cañon on the left of the main one, went up about ¾ of a mile, found a small spring and made camp in a narrow gorge with pine-covered mountains rising near 2000 feet all around us. Alfred drove 8 head of loose animals. Camp 2000 feet above camp Kanab Gap. Snow on the mountains 4 or 5 inches deep. A little in cañon.

**Saturday, February 24th.** Broke camp at 8:30 A.M. A grand scene was presented just at the entrance to the main cañon. Look-

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"Curiously, Bishop doesn't even refer to this dinner, though Dellenbaugh writes (A Canyon Voyage, p. 180) that on account of his health, Bishop had severed his connection with the field party, "and on the 22d several of us accepted his invitation to dinner, a sort of farewell, for on the following day we started with our whole outfit for the Kaibab." W. D. Johnson took Bishop's place in the field work."
ing nearly south is a broad cañon, or narrow valley surrounded by high snow-covered mountains, on which grow pine, fir & cedar. Going up this cañon 2 small cañons open on the left. In the first are ruins of Shi-ne-mos houses, and inscriptions on the rocks, near a small spring. This is called Moquis Cañon. A short distance above is a small clearing where John Mangum lived last summer. Large pine trees grow all the way up the cañon. A snow storm began just [illegible]. Made about 4 miles, to Stewart's Ranche and made camp at 11 A.M. Snowed all day & night. A spring (Big Springs) bursts out of the rock 200 feet above the valley on the right side, comes tumbling down the side of the mountains in a stream nearly as large as my body, forming quite a pool, from which flows a small stream that soon sinks. The formations all Carboniferous limestone, except in one place a stratum of red sandstone on the right side, probably Devonian. Two log houses, unfinished, near the spring. Some [Soon?] took possession. We pitched our tent and quietly waited for the storm to cease. If the snow does not get too deep Fred & I will go up the mountain to the southwest, while the rest go southeast. Mountains about 1800 feet all around us. The cañon continuing about 2 miles farther to another spring, then rises to the top of the mountains.

Sunday, February 25th. Snowed all day so we stuck close to the fire. Cleared up in the evening. Snow about 8 inches deep.

Monday, February 26th. Staid in camp until after dinner, then Thompson, Fred, Dodds & self went up the cañon about a mile, then turned into another to the left, past a fine spring, then into another cañon to the left, tied our horses, and climbed 800 feet to the top of the plateau. Found considerable snow. Saw a number of deer tracks. Walked among splendid pine timber for miles. We all climbed [to] one pine more than 100 feet. Air too full of snow to see much, but as far as the eye could reach fine pine timber. Camp at dark.

Sunday, March 31st [1872]. [Enroute from Mount Trumbull to Kanab.] Up at daylight. As there was no water we could have nothing to eat, so saddled up and started. Rode old Mormon

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Here the second gap in the Jones journal occurs, from February 27 through March 30, 1872. Some barometrical readings place Jones at Stewart's Ranch on February 29, and the same day at Camp Kaivav, at this camp on March 1-2, at Stewart's Ranch on March 5, at the mouth of Spring Canyon on March 6, at "Camp Cedar Spring" the same day and March 7, at "Camp at Pool in Kanab Cañon" on the same day and March 8, and again on March 8 at Pipe Spring. On March 9, Thompson writes that he, Jones, and others went into Kanab. From March 11 to March 20 Jones worked with the others in the vicinity of Pipe Spring, then on March 21 set out to investigate the Uinkaret Plateau. On March 25 they climbed Mt. Trumbull, and on March 30 Jones and the new photographer, James Fennemore, set out for Kanab for supplies. Here once more Jones's journal picks up the story.
and pushed hard. At Pipe Spring at 10:30 A.M. Fennemore nearly gave out. Horses very weak. Found Clem who had been boarding at Winsors since we left. Had found his gun. Hunted up our cooking utensils and I got ready something to eat. Made 15 miles. Rain in the night.

Monday, April 1st, [1872]. Hitched up 4 horses and drove to Kanab. Fennemore went along to get a supply of chemicals. Clem preferred to remain at Winsors. Found Bishop gone to Johnson [Settlement] so took possession of the Hogan and cooked supper, burning my right hand badly. Slept in the wagon, was quite sick all night. Hard rain. Met Beaman who arrived yesterday [from Salt Lake City]. He has a team and materials for pictures and mining.

Tuesday, April 2nd. Got ready to leave Kanab at 2 P.M., but as it was raining hard and had been all day concluded to wait until morning. Bishop came back in the afternoon. Thinks he will have his map done in another week.

Wednesday, April 3rd. Rain all day. Staid in Kanab. Two companies of miners came in on account of the excitement on the Colorado River. They talk of crossing at the mouth of the Paria and going over on to the Little Colorado in the vicinity of the San Francisco Mountains.

Thursday, April 3rd [4th]. Loaded up and started at 10 A.M. Roads muddy and bad. Took George Adair along and also a young man by the name of Dunyon who came from Salt Lake

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James Fennemore was born in London, England, September 7, 1849, and died at Phoenix, Arizona, January 26, 1941—the last surviving member of the Powell expeditions. After learning his trade in Philadelphia, Fennemore was employed as photographer at the C. R. Savage Picture Gallery in Salt Lake City. He joined the expedition March 19, 1872, resigned on August 15, and returned to Salt Lake August 28. As official photographer he took the place of Beaman until replaced by Hillers. It is reported that during the "boom days" Fennemore maintained a studio at Silver Reef and that here his negatives were destroyed by fire. Most of the photographic prints have disappeared.

George Adair apparently first became associated with the Powell expedition when he helped Jacob Hamblin take in supplies to the mouth of the Paria late in October, 1871. On February 22, 1872, he was put on the payroll at $40 per month, and was associated with the party through 1872-73 as horse wrangler, packer, and man-of-all-work. Not much is known about Adair, but
with Beaman, sold his mule to Bishop, who gave him an order on Thompson. He [Dunyon] will go with us until we find the party, unless Winsor will cash his order at Pipe Spring. At Pipe at 5:30 P.M. Found about 50 miners brought into this country by the marvelous reports of fortunes at the mouth of Kanab Cañon. Learn from those who have been there that there is but little gold and will not pay for working. Fennemore sick with neuralgia.

Friday, April 5th. Most of the miners started out this morning, some down Kanab Wash, some across the Colorado at the mouth of the Paria, & some back to Pioche and other mines. We loaded up and started out at 1 P.M., having waited for the roads to dry. After going about 4 miles Jude gave out. Hitched Mormon in with Major and went ahead. Soon met 3 Germans a-foot, with packs on their backs, bound for the mines. Poor fellows, they were tired and nearly discouraged, and well they might be. Shortly after came to where 2 families were camped. The men had gone about 2 miles north of the road to a small spring under the red cliffs to water their stock. Drove one mile farther and camped at the foot of a cedar hill. Pitched a tent for Fennemore who was suffering very much with the neuralgia. No water but what we brought from Pipe Spring. Camp a little higher than Pipe. Road runs over a sagebrush plain but grass good. There were in our party, Fenny, Clem, Adair, Runyon [Dunyon], and self. Drove 8 miles.

Saturday, April 6th, 1872. Up at daylight. Got the party camped below us to take the Jude mare back to Pipe Spring. Started at 7 A.M. The horses, not being used to work, stopped at a very steep place where there was a great deal of sand, and we had to unload some of the things and carry up the hill a short distance. Spent 2 hours in getting to the top [Cedar Ridge]. Found a very bad road. In some spots a stiff clay. Made Short presumably it was he whose obituary was printed in the Deseret News, May 27, 1903:

Wesley Adair (also referred to as John or George Wesley Adair) a private in Company C of the Mormon Battalion, was born Feb. 18, 1820, in Pickens County, Alabama. He became a member of the Church of Jesus Christ of Latter-day Saints about 1842. Gathered with the Saints at Nauvoo and acted as one of the minute men there, driven out with the rest of the Saints in the Spring of 1846. Arriving at the Missouri River he responded to the call of the U. S. and became a member of the famous Mormon Battalion and suffered the hardships incident to that notable march of Infantry. He joined the Saints in Utah in 1848 and moved to Arizona in 1880, living for a time at Showlow, Navajo County. His life was spent on the frontier and he was a hard-working man, always ful of faith in the Gospel, and died May 8th, 1903, 83 years old, at Nutrioso, Apache Co., Ariz.

*Ture by reports of gold at the mouth of the Kanab and elsewhere along the Colorado. "hundreds of miners" passed through Kanab and Pipe Springs during the spring of 1872. They returned empty handed.
Creek at 1 P.M.* A dirty little stream not fit to drink. Rain and snow nearly all day. Met many miners anxiously inquiring about the mines at the mouth of Kanab Wash. A great many traveling the other way. Down hill most of the afternoon. Watered at a small spring in a large cañon at sunset, and drove 2 miles farther and made camp at dark at some large white rocks on left side at the foot of a cliff. Triassic rocks all day. From Pipe to Short Creek 20 miles. From Short Creek to the Troughs [Trough Spring in Little Creek Valley] 14 miles. Made 26 miles. Grass very poor. Rocks all Triassic.

Sunday, April 7th, 1872. Last night very cold, wind high, and some rain. Ground frozen some this morning. Broke camp at 9 A.M. Mostly down hill to Gould's Ranche* where there is a small stream and one adobe house. Roads quite good. Most of the way down a cañon and very crooked. A good deal of Basaltic rock, some Lava and some Tracite hills. A number of round bare volcanic hills. Up the [back slope of] Hurricane Hill from Goulds, a long line of red cliffs covered with volcanic debris, rising very gradually from the east, and an abrupt cliff wall on the west. From the top of the hill [Hurricane Cliffs] could be seen Virgin City and Toquerville on the Virgin River. Came to an old stone stockade built by the Mormons. Near by is a spring coming out under a Ledge of Basaltic rock, the fort about 30 feet above the spring. Called Berry Spring.* Camped at 4 P.M.

*It is reported that in 1859 Short Creek Valley was a "herd ground" for cattle owned by the Mormon Church and that during the period 1867-1900 the springs in the "upper canyon" and also those at nearby Cane Beds and Canaan were headquarters for prosperous ranches that utilized the luxuriant forage on the "Arizona Strip." At Short Creek the first permanent settlers (1914) installed an irrigation system adequate for watering about 200 acres and thus supplied the needs of 6 to 8 families.

*Gould Ranch, in Little Creek Valley, shown on some maps as Workman Ranch, was established by Asa (?) Gould (1863 ?), then sold to Jacob L. Workman (1872). It is abundantly supplied with somewhat alkaline spring water, available for irrigating about 100 acres of land. In pioneer days the ranch was a popular stop-over place on the rough St. George—Pipe Spring road. It was many times used as a camp site by exploring expeditions.

*Berry Springs, on the bank of the Virgin River, opposite the mouth of Quail Creek, was chosen as a winter sheep camp and later as a home site by the "Berry" brothers, "in the late 60's," and in the "early 70's was the residence of 5 or 6 families." The springs yield a supply of excellent water, adequate for the irrigation of about three acres of fertile land. In 1872, long before the village of Hurricane had been founded, Berry Springs was an important station on the Kanab-St. George wagon road to Washington and St. George. The "old Berry ranch" is still occupied during the summer season. Jones's seeming lack of interest in the Hurricane Cliffs is in striking contrast with the attitude of Dellenbaugh, who followed the crest of the cliffs for two days, unable to descend until he found wagon tracks leading west from Gould Ranch. He writes:

As the traveller comes to Hurricane Hill he has before him one of the most extraordinary views in all that region if not in the world. Even the Grand Canyon itself is hardly more wonderful. To the right

**Monday, April 8th.** Left the boys in camp, mounted old Mormon and started down the Virgin River to find the Fort Pierce Spring, where I expected to meet the rest of the party. On the right bank is a ledge of volcanic rocks as far down the river as I traveled. On the left a table of red rock covered with sand, and an occasional spot of Basalt rising into high hills a half mile or so from the stream. After going about 4 miles the river valley became some wider and saw several houses and small farms. Turned into a canyon that ran southeast from the river, which opened into a valley within 2 miles. Climbed a hill to get a look at the country, and saw Washington and St. George very plain. Travelled on up the valley until 3:30 P.M., crossed over a small divide and found Fort Pierce on a hill just above a spring. It is a small stone building, quite strong. Seeing no signs of our party [I] followed up the valley to the east, in a wagon road made by parties going to work on the Hurricane hill, until nearly sunset, then camped, ate some cold bread and meat and lay down to sleep a little.

**Tuesday, April 9th, 1872.** Slept but little last night. Up early, ate the rest of my bread and meat, decided to return to Berry Spring and wait to hear from the party. At Fort Pierce met young Miller and Whitmore on their way to the ranch in the mountains. They were too full of wine to give me much information so wrote a note to Thompson, left it on the wall of the fort and started down the wagon track toward Washington. Followed it to near the river then turned up stream to camp [at Berry Springs] getting in at 2 P.M., and found all the party had arrived the night before. Had letters for all of them. Johnson had gone to St. George to telegraph his wife. They [the Thompson party] had remained in the mountains [volcanoes on the...]

and below us lay the fair green fields of Toquerville, on the opposite side of the Virgin, and all around was such a labyrinth of mountains, canyons, cliffs, hills, valleys, rocks and ravines as fairly to make one's head swim. I think that perhaps, of all the views I have seen in the West, this was one of the weirdest and wildest.

"Fort Pierce," on Fort Pearce Wash, at the base of the Hurricane Cliffs, established by John D. L. Pearce, captain of a cavalry troop charged with the protection of southern Utah villages from the Navajo raiders, was a fortified station on the pioneer road from St. George to Pipe Spring and other settlements along the Vermilion Cliffs. Mabel Jarvis reports that "20 to 30 men were guarding there in 1865." The erroneous spelling "Pierce" adopted by Jones and other diarists of the Powell Survey appears frequently in publications and on many maps. This comment applies also to "Pierce" (Pearce) Ferry at the mouth of Grand Wash.
Uinkaret Plateau] until Friday, the 5th, then were obliged to start on account of rations, leaving considerable work unfinished. The snow was 2 feet deep on the summit; they could not follow the trail, got too far to the east and came down at Workman's Ranche 12 miles east of the springs. Their last meal was beans, nothing else. Left Black Prince on the road, "played out." Dodds and Johnson went to the river, spending 5 days. Andy and Jack, down near there taking pictures. Mrs. Thompson stood the trip well.

**Wednesday, April 10th.** Thompson and Adair went to Toquerville after some goods. Spent the day in camp. Wind very high, especially at night. Johnson returned to camp.

**Thursday, April 11th.** I spent the day in looking for old Mormon. Went back on the roads as far as Workman's [Gould Ranch] but neither saw nor heard anything of him. Found a large pool of water about 3½ miles from camp, southeast, and some quite good grass for this country. Two families of Mormons on their way to the Paria River camped near us. Also 2 camps of miners.

**Friday, April 12th.** One party of miners disagreed this morning—broke up; we bought some of their rations, and they separated. Jack, Fennemore, Fred, and Dodds started for the Uinkaret Mountains again, the first 2 to take pictures, Fred to triangulate. Will be gone 10 or 12 days. Johnson, Andy, and self, started for the Pine Valley Mountains distant some 15 miles north, to be gone 5 or 6 days. Adair went up the river to Rockville to get some grain if possible. Clem staid in camp to do nothing. Alfred to look for Mormon. We crossed the Virgin, went to Harrisburg, a village of 15 houses, some of them good stone ones on a small stream called Cottonwood Creek, that comes from the Pine Valley Mountains, then tried to get up the cañon of a mountain stream but failed, and followed an old wagon road up Cottonwood 8 miles, then across a small mountain to the west and made camp at 6 P.M., near a log hut owned by 3 Danes from Washington. They have a little farm in a valley, irrigated by a mountain brook that runs into a cañon after passing their farm, falling sheer down 200 feet, forming a beautiful cascade. Passed some Pa-Ute wickiups on the road, and met 2 Indians near camp. But little grass for our poor horses. Rode old Roan, and packed Dick. For the first 3 miles mostly Basaltic rocks, then red sandstone supposed to be Triassic, and toward night through seams of limestone. Came up from Berry Spring 1500 feet. Traveled about 12 miles.

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300Mormon converts from Denmark were brought to Washington to work in the cotton mill construction in 1866. Some of them became successful irrigation farmers. At least three places along the base of Pine Valley Mountains are referred to as "the Danish ranch."
Saturday, April 13th. Before breakfast Pa-Ute Frank and another Indian came to see us and remained to talk and eat until we left. Started at 9:15 A.M., went north up a narrow valley with numerous springs about 2 miles, then crossed a mountain to the west finding hard work to get the horses over, then through gulches to the northwest until 12:30 P.M., when we camped near the foot of the mountain, finding plenty of snow. Wind awful, but we were pretty well sheltered. Found considerable mountain Mahogany and some yellow Pine. Took our horses up a hill a thousand feet above camp to find a little grass. Old Dick gave out and we packed Roan and I drove the gray. Rocks on each side of the valley—light friable sandstone. After crossing the divide, mostly huge boulders of dark color very nearly approaching Granite, containing Feldspar and Mica. The mountain covered with snow and looked as though a hard climb was before us. Some snow in afternoon, but the sky cleared up in the evening and the stars shone as clear and looked as cold as in January. Made a huge fire of Mahogany, a hard heavy wood. Travelled about 6 miles.

Sunday, April 14th. Left camp in Mahogany Cañon at 8:45 A.M., and all of us started to climb to the west end of Pine Valley Mountains, that being the highest point. Soon got into the snow and climbed a long way over deep drifts, sometimes breaking through and going waist deep. Got within about 400 feet at 2:30 P.M. Could get no higher on account of the snow. Mountain very steep. Climbed a long way up a shelf not more than 3 feet wide where a single false step would have sent us down hundreds of feet. Rocks nearly Granite. Evidently Igneous. The cold was intense, have not suffered so much the past winter. We were very wet from climbing through the snow that was now freezing. Andy built a fire at the foot of a small dead pine where we had to hold fast, while warming, to prevent falling. Did not build a monument but called this Geodetic point “L.” Johnson sketched while I triangulated. Started down at 4:15 P.M. After going a few hundred feet Andy slipped, sat down in the snow and slid 200 or 300 feet before he could stop. As he could not get back he went ahead, finally landing in a snow bank up to his neck, after going over a ledge of rock 20 feet high. He went down 1500 feet in 3 or 4 minutes. We climbed down rapidly and just before dark reached camp, wet and tired. We were at an elevation of 9900 feet above the sea, 3000 above Mahogany camp, and 6500 feet above camp at Berry Spring. Estimating that we were 400 feet below the summit, the mountain is 10,300 feet high [Mount Burger, altitude 10,324 feet]. We were higher than any other members of the party have been. The mountain is very steep, and I cannot see
how it can be climbed until the snow is gone. Seems to be very narrow. Is thickly covered with dwarfed yellow pine.

Monday, April 15th. Andy and self hunted horses until 10 A. M., then packed up and started down the cañon through thick oak brush and among huge rocks. Struck an old road after going about 2 miles, that leads from Harrisburg to a little farm in a valley a mile or so west of camp. The road strikes over to Cottonwood or South Ash Creek near the ruins of an old saw mill, then follows down the creek to the town. Stopped a few minutes at some Pa-Ute wickiups, reached Harrisburg at 4:30 P.M., went down the cañon of Cottonwood to its junction with the Virgin, then across to the old fort at 5:45 P.M. Made about 16 miles. Found Clem & Alfred in camp. The party mentioned started for the Uing Parets [Uinkaret] Mountains Friday P.M. Mr. & Mrs. Thompson and Adair went to St. George, 15 miles on Saturday. Alfred has spent every day in looking for old Mormon. I think that he, the horse, has gone back to Pipe Spring.

Tuesday, April 16th. Johnson went to Washington [Village]. The rest in camp. A very high wind and a little rain. Quite cold. Mr. and Mrs. Thompson came in near night. Reported that a telegram announced that the U. S. Supreme Court had decided that the trials in the territorial court over which Judge [James B.] McKean presided were illegal, consequently all the Mormon prisoners, from Brigham Young down are released. A jubilee was being held in Washington and Johnson and Adair both remained.

Wednesday, April 17th. I started out to look for a telescope lost on my last trip. Found it in Harrisburg. Met Frank and another Indian coming in to talk as they said, but really to eat. We have arranged a meeting with all the Utes at the Fort Pierce Spring in 6 days from now. Intend distributing some goods the Major procured in Salt Lake City, and sent to Toquerville. Johnson returned at noon. Reported a big time last night. Nearly every one drunk. From his appearance judge that he assisted. Adair had a fight and remained to have his trial. Came in near night, looking considerably the worse for rough usage.

Thursday, April 18th. Clem and Johnson started for Kanab to be gone 5 or 6 days. Clem to get material to make pictures.

101 Many of the routes taken by Jones in his adventurous survey of the Pine Valley Mountains (April 12-15; April 28-May 2) are difficult to trace. The traverse of the exceedingly rough snow-covered terrace unmarked by trails doubtless accounts for the meager record. Furthermore, the geographic terminology of Jones is out of accord with present usage. Under the circumstances it is worthy of note that in outline the topography as sketched by Jones is substantially that shown on more recent maps. (See note 105.)

102 The small village of Washington was founded in 1855 in the “Dixie country,” where a profitable cotton industry was expected to be developed. A factory built in 1866 provided cotton cloth.
Johnson to see his family. Took Roan and Gray Billy. Adair went to Rockville to buy corn. Alfred to Toquerville for the mail. Only 4 in camp. Some miners camped near who have been up on the Paria & say that the reported rich discoveries on that stream are not true. I do not believe that mineral in paying quantities exists in this country.  

Friday, April 19th. Took observations for time and latitude. Wind very high. Moved my tent under the hill.

Saturday, April 20th. Let my chronometer run down, so had to take observations for error and rate. Adair went to Washington to buy flour. Could only get 100 lbs. We have plenty of ducks.

Sunday, April 21st. Andy and Alfred spent the day in looking for Mormon. Am afraid he has been stolen. Took observations for time and latitude. Thermometer 90° in the shade at 12 M. Got supper. Latitude of the [Berry] spring 37°-09'-40", longitude 113°-130'.

Monday, April 22nd. Adair and Hattan went to Toquerville after some goods that the Major had procured in Salt Lake City and shipped down for distribution among the Sheviwits [Shivwits] and Pa-Utes. Clem got in from Kanab in afternoon bringing some mail. Andy met McEntee on his way to Salt Lake City.

Tuesday, April 23rd. Started George Adair to Fort Pierce Spring via of Washington with the Indian goods. Thompson and self went down the Virgin River 5 miles or so, then turned into Washington. Stopped the team and sent Adair to tell the Indians to come to town and receive their things there. Washington is a town of about 500 inhabitants. Is laid out on 2 streets nearly north and south; has a great many shade and fruit trees, is watered by means of ditches from some small springs, has a fair looking school house, a woolen and cotton factory, both of stone, a cooperative store, and a number of good dwellings. They have a large cooperative field on the east side of the Virgin, and raise wheat, corn, barley, and cotton, with lucerne, a kind of a clover, for hay. In town are raised grapes, peaches, apricots and a few figs. Much wine is made, and much drank. The Indians began to come in the afternoon. Twenty or more slept near the wagon.

Wednesday, April 24th. Indians began coming in early. There were the Sheviwits, to whom this distribution was made.

Extensive prospecting and small scale mining operations have shown that the ore deposits of southern Utah have small commercial value. A remarkable exception was Silver Reef in the Harrisburg mining district, a few miles from Jones's camp at Berry Springs. Here silver ore valued at about $7,000,000 was obtained during the period 1877-1893.

See Mr. Kelly's note, p. 372.
also most of the Santa Clara, and some of the Kaivav band to see. The Sheviwits were arranged in a circle seated on the ground, each band with its chief, of whom there were 3. We had for an interpreter a young man of the Santa Clara band, called George. After getting the names of the men, together with the number of the squaws and papooses belonging to the band, the distribution began. The presents were blankets, shirts, cotton cloth, drill, a few pieces of blue flannel, butcher knives, and some hoes, axes and shovels. About 11 A.M. the natives became very hungry and we gave them some flour and meat, and waited until they had eaten, when the young men gave us a dance, then we finished the distribution. Old Moqueop, an old Sheviwit, made a speech telling them that they must be good "wano" Indians or the Americans would make them no more presents. Then Pa-Ute Frank talked awhile and the conference closed. He (Frank) is a good speaker, is a young man and is trying to become chief of all the tribes in southern Utah. There were present [ ] men of the Sheviwits. There are in the tribe [ ] squaws, and [ ] children making a total of [ ]. Counted while they were at dinner 106 Indians, mostly men; but few women or children present. Think government can be induced to establish an agency for them. Went 5 miles farther southwest of St. George, the county seat of Washington county, the most southwestern town settled by the Mormons, and the most important in southern Utah. Staid at the Mansion House.

Thursday, April 25th. Staid in St. George until afternoon, then back to camp at Berry's Spring. St. George is a town of about 3000 inhabitants. Is built on some small streams that have their source in springs near. Contains one cooperative store, one individual store, 2 harness, and one tin and one shoe shop. Has a fine tabernacle of red stone 65 by 100 feet nearly completed. A good stone court house that would be a credit to any town of its size. The foundations of a Temple are laid. The Mormons design making this their headquarters for Southern Utah. Here lives E. J. [Erastus] Snow, President of the southern conference, a fine looking middle-aged man, the husband of 4 wives. There is but little farming land, but the valley is a splendid place for fruit, and peaches, figs, strawberries, grapes and apricots do well.

Friday, April 26th. I went to Toquerville and back. Johnson came in to camp. The boys got things ready to start in the morning, when we will divide into 4 parties, go different ways and meet at Pipe Spring, or Kanab in 8 or 10 days. Stock very poor. But little feed in this country.

Saturday, April 27th, 1872. Thompson and wife, Fred, Clem and Adair took 3 pack horses and started to go down the Grand Wash south of St. George as far as Sharp Mountain [Mount Bangs?] to erect monument "J" and sketch the country.
Fennemore and Jack took one pack horse and started up the Virgin River to take pictures, are to be at Pipe Spring in 8 days. Dodds, Andy and Alfred took 5 horses and the wagon to Pipe Spring from where D & H go to the mouth of the Paria and back. Johnson and self with one pack went to Washington with the party going south, turned to the northwest, stopped at a small spring 2 miles out for supper then climbed the black volcanic hills and camped. Rode Bay Billy. But little grass. Night quite cold. Made about 15 miles.

**Sunday, April 28th.** Started at 9 A.M. Soon began raining and snowing with alternate sunshine and so continued all day. Followed one trail after another until 2:30 P.M., when we found some water in a cañon and camped until the storm should be over. All day over Basaltic rocks in high ridges and deep cañons. Camped about 3 miles from the [Pine Valley] mountain, but as it could not be climbed from the south we had to get to the west and where there was said to be a saw mill and a road up the mountain. Night quite cold. Made about 15 miles, but only about 8 miles in a straight line.

**Monday, April 29th.** Started at 8:50 A.M. Left all trails and struck across the hills and cañons to the west 4 or 5 miles, finding a rough road. Struck the road from St. George about noon, and followed it to the northeast until 3 P.M., when we found a small saw-mill on a little stream. Near it stood a log house minus doors and windows. Found a lady about as intelligent as the average in this country, who could tell us nothing about the way on to the mountain, so we camped near to wait the return of her husband who was engaged in felling trees on the mountain side. The whole top covered with snow, which reached far down the side. Night cold.

**Tuesday, April 30th.** Broke camp about 8:30 A.M., and followed a road, that Blake, the owner of the mill, had made up the mountain about 3500 feet. About half-way up was a small plateau of perhaps an acre, covered with luxuriant grass, and thickly studded with mountain Mahogany. Rocks in huge boulders, evidently metamorphosed, and probably granite, with considerable Mica, were strewn around, or piled in huge masses. From here the ascent was very steep, and road rough until we reached the first bench of the mountain, going up near 1800 feet in a mile. Here the snow was too deep to take the horses farther, so selecting a clear spot under a large pine, we unpacked, turned the animals down the mountain to find grass, made some coffee, and prepared for a climb. This was as high as the road went. Blake cuts timber here in the summer hauling it down the west side of the mountain about 3/4 of a mile, then sends it down to near his mill by means of a slide or shoot, about as much farther. On all sides of us rose high peaks, the highest to the right or east.
Up this we started, soon striking snow and travelling 3 hours in the same. On an average about 4 feet deep, but in the canyons from 15 to 50 feet deep. Found the mountain to be composed of peaks, or ridges, running from south to north, highest at south, separated by deep narrow canyons. Climbed 3 of these ridges before reaching the highest. From that the mountain grew lower to the east, finally ending in the Triassic cliffs. The south side is very steep, presenting in many places perpendicular walls. The canyons running north seemed to be intercepted by a similar wall not so high, from which rise dike ranges of ridges or peaks. Beyond these to the north are lower mountains and beyond these lies Pine Valley. To the west the peaks grow lower, and west of the mountain is the small valley where Blake lives, looking like an emerald. Established Geodetic point “L” and returned to camp at dark, having climbed 2000 feet, most of the way in snow quite soft. Wind blew very hard, and night cold.

Wednesday, May 1st, 1872. Started up the mountain early to do the necessary work. The snow frozen hard, and we made a quick climb. Reached our point about 9 A.M. Johnson climbed a tree to sketch. I planted the “Graidenter” in a snow bank, and both worked steadily until near 2 P.M. Looking east, nearly, we could trace the Virgin River to its source at the head of Long Valley. Could see Virgin City and Toquerville. Following down stream saw Harrisburg, Washington, and St. George. Farther to the right could see a part of the Santa Clara River and a small valley called Diamond. To the west a rough, broken country as in all others, the view closing in all directions except south with snow-covered mountains. Snow quite soft going down and we often sank waist deep, sometimes deeper. Started down after the horses. Found them near Blake’s, led them up to camp, packed up and went down to the Mahogany Plateau. Found a little water and a little snow. The first good grass for a month.

105 During the period April 12-15 Jones had mapped the western flank of the Pine Valley Mountains. Continuing the survey (April 28-May 2) he gave attention to its top and its southern and eastern margins (see note 101). 106 “Diamond Valley” is a common corruption of Dameron Valley. Mrs. Juanita Brooks of St. George writes the Society:

Mr. M. E. Moody, Sr., tells me that his uncle, Joseph Damron, herded sheep in that area during the early days, and that the valley was named for him. Mr. Moody gives the spelling as Damron, and says that he does not know that his uncle had any legal claim there. In James G. Bleak, Annals of the Southern Utah Mission, MS., Vol. 1, I find in the minutes of the County Court held on the 7th of March, 1859, an item of business which reads, “A herd ground, 8 miles square, was granted to Robert D. Covington in Dameron Valley, said Grant not to conflict or interfere with the grazing of any other settlement or previous rights.” So it would seem that the name dated back before that time, and the spelling of the name for the records seems to have been established as “Dameron,” from which it has been variously called “Damon” and “Diamond.”
Thursday, May 2nd. Started at 8:45 A.M. Stopped a while at Blake's. Followed a wagon road to Washington, through Diamond Valley, where there are 2 small farms. Found no grass so stopped with Newton Adair and fed green Lucerne. Made camp at 6:50 P.M. Traveled 22 miles. Night very warm.

Friday, May 3rd. Started at 7:45 A.M. Made Berry Spring at 11:45. Stopped until 2 P.M., then rode to Workman's Ranch and made camp back of the house at 6 P.M. on a little stream. Stock very weak. Here there is one small farm and one family. It is on top of Hurricane Ledge and surrounded by the red, or Vermillion Cliffs, on all sides except the south. There by a Basaltic Ledge. Slight rain in the night. Made 20 miles.

Saturday, May 4th. Started at 9 A.M. Travelled southeast up a small valley [Little Valley]. Basaltic rocks on right, red cliffs left. Made the Sheep Troughs 8 miles, at 12 M. A cooperative herd of 2500 sheep had been wintered here and of course there was no grass. The spring comes out of the low line of white cliffs, on the right hand of the road going east. The stream is very small and is caught in wooden troughs. The cliffs are the same line as those in which are the Navajo Well, Eight Mile Spring—the springs on the road between Pipe and Kanab, and Antelope Spring. Just north of here we left the Basalt, and all the way to Pipe Spring are Triassic rocks. Stopped for an hour about 2 miles from the Sheep Troughs, then made Short Creek nearly sunset. Stopped long enough to get supper, then went over a ridge, 2½ miles, to find grass and made camp under a small cedar. Travelled 24 miles.

Sunday, May 5th. Had left my spurs at Short Creek and went after them before breakfast. Broke camp at 9:30 A.M. Made the top of a long cedar ridge at 12 M. Stopped at its foot to let the horses rest and eat. Started a 2 P.M. and made Pipe Spring a 5 P.M. Found that the first party had arrived on Monday before, and Thursday Dodds and Andy, had started to the mouth of the Paria. Alfred had been up the Virgin River hunting old Mormon. Did not find him but Walter Windsor did near Shuensburg and had brought him in on Thursday. Jack and Pennemore had arrived Saturday. Had a very good trip and made 25 pictures. Learned that Hamblin had not yet got back with our rations so borrowed some flour of Windsor, bought some coffee of a party of miners of whom there were 30 or 40 camped here. and Jack cooked. The excitement about gold on the Colorado is abating. Most of the miners have left. There seems to be no gold in this country. Travelled about 18 miles.

Monday, May 6th. Wind blowing very strong from the southwest raising great clouds of sand. Could see but little distance, so staid in the house.
Tuesday, May 7th. Johnson and self went 5 miles west and climbed to Geodetic point “H.” Commenced raining when we were about half way up. Lost our trip but got tired and wet. Rode Mormon.

Wednesday, May 8th. Cold rain all day. Sent Alfred to Kanab.

Thursday, May 9th. Cold rain most of the day. Thompson and party came in at 9 P.M. [enroute from St. George via Fort Pearce]. Horses played out. Report a hard trip. Weather warm, trail rough, and but little grass. Alfred back with word that Hamblin had returned.

Friday, May 10th. The party started for Kanab, Johnson and self to climb to point “H.” Did triangulation and sketching and back to Pipe Spring at 4 P.M. Mrs. Windsor gave us some dinner and we started to Kanab at 5 P.M. Expected to find camp near the gap some 4 miles below town. Reached there about 9 P.M. Could not find camp so spread our saddle blankets in a small cave and went to sleep. Johnson worried considerable, said he slept cold.

Saturday, May 11th. Started up Kanab Creek at daylight and found camp at the southern boundary of the town. Did but little. Johnson went home. Beaman came in from the river.

Sunday, May 12th. All hands rested. Bishop, Johnson and wife came in evening.

Monday, May 13th. Decided to remain at this camp to duplicate work to leave for safe keeping. Sent most of the stock to Johnson. There grass is reported good. I took 4 horses and a wagon and went to Pipe Spring for the things left there. Dodds and Hattan got there at night. They crossed the Kaivavav [Kaibab] Mountains farther south than any of our party ever were before. Tried to get to the river opposite the mouth of the Little Colorado but were prevented by snow.

Tuesday, May 14th. Loaded up. Dodds and Andy with me and back to camp. A cold storm all the afternoon and night.

Wednesday, May 15th. Fennemore and Jack printing [photographs]. The rest busy with maps and notes. Beaman[37] and Thompson settled up. Mrs. Thompson decided to remain in Kanab, so a tent will be pitched for her on Hamblin’s lot, and she will board with “Louesa” one of his wives. Mountains white with snow.

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[37]Beaman had separated from Powell at the end of January. He was now preparing to journey to the Hopi villages on an independent photographic venture. Bishop went with him, but they found the Colorado in flood and could not cross. Beaman made a second and successful effort later in the summer, in company with James Carlton. His experiences are described in his narrative in *Appleton’s Journal*, May 9 and 16, 1874. Also see Jones’s entry for June 11 below.
Thursday, May 16th to Thursday, 23rd. Taking time observations and fixing things for a trip to the Dirty Devil River from where a party will come to the mouth of the Paria with the “Canonita;” the rest return here working up the country as they come. Distributed some goods to the Pa-Utes on Monday, the 20th. There are in the band—men, women, boys and girls—Total [ ]. Jacob Hamblin will try to persuade them to farm some.

Friday, May 24th. Took and worked time observations. Will leave a chronometer with Mrs. Thompson in order to determine its rate before going down the river. Dodds fixed saddles &c., for the trip. Day quite warm.

Saturday, May 25th. Got 5 animals of Jacob Hamblin to pack. Took what things we did not need up to Kanab, loaded what we wanted into the wagon and at 11 A.M. started for Eight Mile Spring where 14 of our animals were. Got those at 2 P.M., and found the water gone. Hard work to get enough for dinner. Started at 3:45 P.M. for Johnson Cañon. I rode ahead and found a good camp for this country 2 miles north of the houses, and 4 miles north of the mouth of the cañon. A small spring comes out of the foot of a huge rock at the mouth of a lateral cañon on the left or east side [Rock Spring]. Near the hills is a long quagmire, not unlike an Illinois slough. Camped on a little knoll, surrounded by swamp, grass and marshes. The mouth of the cañon is about 2 miles wide and about one mile at camp. Is in the line of Vermilion Cliffs, about 10 miles east of Kanab. Going up the cañon to the north the white Triassic comes to the ground within 3 miles. Opposite camp is a large lateral cañon. Grass quite good. Johnson is a settlement of 3 blue adobe houses, 2 log ones, and one tent. There are 4 or 5 men of that name, and about a dozen married women, some of whose husbands live elsewhere. They keep the Kanab Cooperative herds of cattle and sheep. Made camp at 7:30 P.M. Thompson returned from Eight Mile to Kanab. Adair and Fennemore remained in Kanab, the latter sick.

Sunday, May 26th. Johnson staid home last night, and this morning went to Pipe Spring on gray Bessie; Alfred went to visit the girls at Johnson. Jack and Andy drew a load of wood. I took observations for time and latitude. Clem and Jack took some views. Jack has got up a dark tent that beats any other I ever saw. He is improving fast. Dodds shod horses. He had a fight

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Johnson (Johnson City) was founded in 1871 as the townsite for 5 families, and during the following 20 years was a prosperous community of farmers and stockmen and an important stopover point on the road to Panguitch and Salt Lake City from northern Arizona and southern Utah settlements. In recent years the destruction of its surrounding arable fields and the construction of the Kanab-Mt. Carmel link on the Utah-Arizona highway has made Johnson an agricultural ghost town on a little used road. The married women Jones refers to probably were plural wives.
with old Mormon and threw a hatchet through his ribs. We did up the wound as well as we could and turned the old horse out to grass. This spoils my riding horse. Must find another. The view from camp was fine. The red and white rock distinctly marked, the cañon wide, grass green, hills rounded, and stock in every direction. Fixed some shelters and prepared to be as comfortable as possible. Ther. 95° in the shade at 1 P.M.

**Monday, May 27th.** Took observations for time and one for latitude at 10:30 A.M. Dodds and Andy shod horses. Jack went to Kanab with the wagon. Johnson came in from Pipe Spring. Adair and Jack came to camp after dark.

**Tuesday, May 28th.** Adair went back on the road to find some things lost last night. Came back while we were at dinner and Fennemore came with him. He, F., left Kanab shortly after Adair and Jack did not turn off at the right place but kept traveling on until midnight, then tied his mule and tried to sleep. The mule broke loose and this morning the man took the back track. Reached Johnson about 10 A.M., "played out." Left his saddle where he stopped. Took time and latitude observations.

**Wednesday, May 29th.** Thompson came in the morning bringing our mail; then he, Fred, and Johnson went 7 or 8 miles east and climbed to Geodetic point "B." Fennemore went along to get his saddle, which was 3 or 4 miles farther. Alfred gave notice this morning that he must have higher wages or quit. As Thompson refused to raise his wages he will quit, but went to Kanab to look for the mule that Fennemore lost. Took time observations with Jack, to take time. Dodds and Andy finished shoeing horses. Brought old Mormon in and sewed up the wound in his side. Guess he will die. When Prof. and Fred came in at night they brought the missing mule. Day very hot, but night cold.

**Thursday, May 30th.** Packed 12 animals, rode 10 and at 11 A.M. turned our faces toward the Dirty Devil.\(^{100}\) Dodds took

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\(^{100}\)A major undertaking of the Powell expedition of 1872 was a trip from headquarters at Kanab to the mouth of the Dirty Devil to recover the "Canonita" temporarily abandoned on the river traverse of 1871. As the proposed traverse was through regions not previously explored, advantage was taken of the opportunity to sketch the geographic features, prepare a preliminary topographic map and make observations regarding suitability for settlement. The large, fully equipped party traveled as a unit as far as Potato Valley (Escalante), where Jones and W. C. Powell were instructed to proceed to Kanab and return to Potato Valley with additional camp supplies and saddle horses. The remainder of the expedition in charge of Thompson continued the journey as planned and enroute outlined the drainage basins of the Escalante River, Hall Creek, Trachyte Creek, and the Dirty Devil River and recorded for the first time the salient features of the Aquarius Plateau, Circle Cliffs, Water Pocket Fold, and the Henry Mountains. On reaching (June 22) the place where the "Canonita" had been cached, Dellenbaugh, Fennemore, Hillers, and Johnson took the boat to the mouth of the Paria (arriving July 11) and the remainder
Mormon down to the settlement and got Nephi Johnson to take [care] of him. Left 2 horses beside in Johnson Cañon. As Alfred did not get back left word for him to take his horse and saddle to Kanab and leave with Jacob Hamblin. Traveled in a general northeast course 11 miles up the cañon which grew narrower. The dip of the rocks is north and the red ran under leaving the white to the ground. All the white rock Jurassic, Triassic gone under. Went up about 500 feet, and camped at Clarkston [Skutumpah], near running water, a settlement of 5 or 6 families, in a little valley where the cañon widens and hills quite low. To the north rise the White Cliffs, probably Cretaceous. Beyond them the Pink Cliffs—Tertiary. At the foot of these is Stewart's mills. Very good pine timber on the Pink Cliffs. Made camp at 3:30 P.M. Took a walk in the hills back of camp, and Fred sketched the country. Day quite cool. Some rain.

Friday, May 31st. Some Pa-Ute Indians were camped near and several came in before breakfast. One called Tom agreed to go with us. Said that he knew the country as far as to Potato Valley on the headwaters of the Dirty Devil. Dodds, Jacob Hamblin and Walter Windsor were through here last summer, and Cap. [Dodds] remembered the country well. Travelled to the east across the valley 4 or 5 miles, then over the hills with a succession of small valleys with good grass, but no water, until 1 P.M., when we reached a larger valley, with small springs, and a large swamp. Dodds had been here before, and named this Black Tail Springs. On up the valley, across a low cedar ridge, then another small valley and another ridge, and we came into a valley 4 or 5 miles long and averaging ¾ of a mile wide. and made camp under a cedar tree at 2:45 P.M. A short distance from camp was a clear, cold spring, and small stream of water. Grass the best yet seen in this country, and our horses ate their fill and laid down within 2 hours. To our left was a long line of Pink cliffs from which this valley as well of the party began the overland return trip. In the meantime Jones obtained the much-needed supplies at Kanab (June 11-13) and retraced his trail to the appointed rendezvous at Potato Valley (June 17). Here he spent 13 days in a search for the Thompson party returned from the Dirty Devil, and finally found them in camp on Birch Creek (June 30). On July 2 the reunited party took their "homebound" trail, and arrived at Kanab on July 9. The diary records of these pioneer overland trips are reproduced as a continuous narrative in Powell's report, and the adventures enroute are described in graphic terms by Dellenbaugh in The Romance of the Colorado River, pp. 311-316, and in A Canyon Voyage, pp. 195-209.

As early as 1870 Skutumpah was chosen as the headquarters for a ranch and under various owners its irrigated fields and pasture lands have continued in use. In 1872 the ranch was occupied by the Clark family, and on the maps of the Powell Survey its site is shown as Clarkston. Stewart's mill, from which lumber was hauled to Kanab, was in Tenney Canyon, five miles north of Skutumpah.
as all the others passed this day, comes. General course of the valleys from northwest to southeast. About 2 miles below camp the valley canyons in the white sandstone. Three-fourths of a mile below camp was a clear, nearly round lake, about 300 yards across. Water very cold. Rocks today Jurassic. Perhaps touched once or twice on the Cretaceous. Sand in the valleys nearly white [mostly decomposed gypsum]. Near Clarkston a few Basaltic rocks from some outflow of lava. A great deal of cedar, and a little pine on today’s route. Our Indian knew the country and pointed out several old camps of his people. Near camp was a plain horse trail probably made by miners. Would not be surprised to see white men any moment. Afternoon fair. Night cold, 1100 feet above last night’s camp. The outlet of the lake named “Swallow” was a narrow canyon of white sandstone—very pretty. Tom said that it opened into another valley with springs, that into another canyon that could be followed to the Paria farm, that we supposed to be about 15 miles distant. Made today about 17 miles.

Saturday, June 1st, [1872]. Broke camp at 8:45 A.M., and went across the valley which is wide. Adair laid claim to the entire valley by sticking up a notice to that effect by the spring. Gave Indian Tom a horse to ride. Crossing a low range of hills we came to another valley with a small spring. Then a succession of ridges and small valleys until 10 A.M., when the hills became steeper, and the hollows between gulches or canyons, all coming from the range of Pink Cliffs to the northeast. Ten miles from camp found a small muddy creek. Here we struck Dodd’s trail of last fall, he having struck the creek lower down, and followed it up to here. The water was in a deep narrow canyon and could not be reached. Two miles farther came to Buffalo Berry Creek [Willis Creek?] in a small valley. Three miles more to Clear Creek [Sheep Creek?] and 2 1/2 [miles] farther to the Paria, where we camped at 5:30 P.M. Most of the way over steep hills and down deep gulches. Many cedars and some large pines. Trail very hard. Rocks Jurassic. Mostly white. About half way between Buffalo Berry and Clear Creek, came to a deep canyon with steep walls where young Averett was shot by Indians in 1866. His grave was in the canyon. We reached the Paria in a small valley with low white hill on each side. Stream about 10 feet

As shown on recent maps of the U. S. Geological Survey, Swallow Park is a cliff-enclosed area from which the drainage passes through a slit in a sandstone wall and along Park Wash to Kaibab Creek and the Paria River. On its floor is the swamp-rimmed Adair Lake.

Elijah Averett, a member of the exploring party in charge of Captain James Andrus (1866), was killed while pursuing a band of thieving Paiutes. Until 1935, when a suitable monument was erected, his grave, located near Henrieville, Utah, was marked only by a sandstone slab bearing the initials “E. A.” The stream valley near the site has been named Averett Wash.
wide and one foot deep. Water thick with white mud and strong with Alkali. Camped in the bottom in the grass. Killed a rattlesnake while making a fire for supper. The Indian knew nothing of the country after 5 or 6 miles this morning.

Sunday, June 2nd. Broke camp at 9 A.M. Followed the valley of the Paria, which grew smaller. Passed one clear creek, then the left fork of the river, about as large as the right fork [Henrieville Creek] up which we went, both but small streams. Passed 3 muddy creeks coming on the right side—one of them red, the others white. Rocks light colored. A great deal of clay. At 1 P.M. Jack remembered his ammunition left at last night’s camp, and went back. Heavy thunder and some rain. Followed up the [creek?] which shortly cañons. At three P.M. passed the last spring of this branch of the Paria, about 17 miles from camp.

Went up a narrow cañon or gulch in the clay shale, and at 4 P.M. began the ascent of the divide between the Paria and Dirty Devil rivers [Paria and Escalante]. Started up a narrow ridge of clay shale just as the rain began to fall in earnest. Spent an hour in going up about a thousand feet, packing several animals on the narrow ledges. At the summit found plenty of cedars, and the head of a grass-covered valley, down which we went about 2 miles and made camp on a small ridge running down from Table Mountain, near a cold, clear spring. Plenty of large pine trees. Built some fires to dry out. Passed today several small strata of lignite coal, and in one place a bed of Alum. Rock Cretaceous. Camped at the foot of Table Mountain [Table Cliff, the southernmost escarpment of Aquarius Plateau] the summit of the Pink Cliffs. On the south side, the Paria rises. On the east the Dirty Devil and it is said that the Sevier rises on the north side. Made about 22 miles, and came up 1400 feet. Rain all evening.

Monday, June 3rd. Commenced raining soon after daylight. We rolled out, piled up our things, and covered them with a paulin, and waited for the rain to cease. Indian Tom said this morning that he was “heap sick” and wanted to go home, so we gave him a blanket and some rations and he started back. Broke camp at 10 A.M., and traveled down a valley from ¾ of a mile to 1½ miles wide, rising to mountains on either side covered with pine timber [Upper (Potato) Valley]. Numerous springs on each side of the valley, grass splendid, soil good, mud deep. Six miles from camp the valley cañons. Walls from 100 yards to ¼ of a mile apart, and from 300 to 1000 feet high. Mostly of gray sand-

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[327]The information received from Indian guides and Mormons regarding the western tributaries to the Colorado River proved to be glaringly erroneous. As recorded on modern maps, the ridge at the head of Henrieville Creek is the divide between the Paria and the Escalante rivers; the Dirty Devil (Frémont) River lies 80 miles farther north across plateaus, high ridges, and many deep canyons; and the Sevier River (East Fork) rises 30 miles southwest of Table Cliffs.
stone, some red, and all Cretaceous. Passed 2 creeks running in from the left, both very muddy. Came to a narrow, deep, muddy creek coming from the north, or left side, at 3 P.M. As we would have to dig down the banks and fill the stream to cross, and as Dodds said that we could not get to the deep cañon of the river, made camp near the forks of the streams. Began raining near night and continued most of the night. Water of both streams very muddy. Left one comes from the snow on Table Mountain. Went down 1200 feet. Made 13 miles.

**Tuesday, June 4th.** Rain nearly all day. Did not break camp. Thompson sick. Fred and Jack went up the left-hand creek and saw a pretty little valley. Banks each side of camp about 1000 feet high of gray Cretaceous, perhaps some Tertiary. Plenty of cedar, no pine.

**Wednesday, June 5th.** Broke camp at 8:30 A.M. Spent nearly an hour in crossing the creek above the junction [of Birch and Upper Valley creeks] and getting around a point of rocks. Then went down a valley on right bank, across deep gulches. A short cañon divides the valley just below camp. Made camp at 12 M. just above where the stream cañions [site of Escalante]. Two small springs on right bank near camp. Valley about $\frac{1}{2}$ mile wide at camp. A range of low black gravel hills on right; back of these a valley much broken by gulches for 8 or 10 miles; then a line of abrupt gray cliffs reaching from Table Mountain to the Colorado [Straight Cliffs, the northeast wall of Kaiparowits Plateau—Fifty Mile Mountains]. On the left the white sandstones which comes in on both sides where the stream cañions. Dodds, Hamblin and Windsor were here last August and travelled 5 days down the cañon. Now the water was too high. After dinner Prof. and Cap went down the valley following an old Indian trail which led to some water in pockets in the white rock near the head of a gulch about 2 miles south of the stream. Adair and Fred went back and followed up another trail to a cedar ridge where were several wickiups. Moccasin tracks evidently made this spring. Fennemore and Jack climbed the right wall of the cañon and took 2 fine pictures. Johnson wandered around pretending to be geologizing. I climbed the right wall over smooth gray rock 1000 feet or more to a high point. Had a good view of the country. A creek [Pine Creek ?] a little larger than the one we have been following came from the northwest, evidently having its source in the mountains 20 miles away where there is said to be some lakes. Andrews [Capt. James Andrus] with 100 men came in here in 1866, crossed the divide between the streams and followed up this one to the mountains, then across to the Sevier. From Table Mountain runs a line of mountains to nearly east of camp where are the Dirty Devil Mountains [Henry Mountains], 5 in number, seen last fall, and around
the base of which the stream runs. Southeast is old Seneca How­
land [Navajo Mountain]. Thought I could trace the stream to
the Colorado, and how it can get around to the volcanic mountains
is more than I can see. Rocks today gray. In one or two spots
a dull gray color, seemingly much harder than the rest. Cretaceous
with perhaps a little Jurassic near camp. Went down about 200
feet. Made 8 miles.

Thursday, June 6th. Broke camp at 9 A.M. Followed an
Indian trail over the cedar ridges and through deep gulches to the
water pockets seen yesterday. Near them were 3 wickiups evi­
dently made this spring. Trail was [went?] no farther. Clem
made some pictures, also Fennemore and Jack. Thompson and
Dodds went on down the valley, and found to their great surprise
that this stream was not the Dirty Devil, nor within 40 miles of it." So we will have to turn back and try again. Made 9 miles. Made
camp at 12:15 A.M. [12:15 P.M.]

Friday, June 7th. Started at 9:30 A.M. on the back track.
Made camp at the same spot as on the 5th at 1 P.M. Clem and
Adair went below last night’s camp for Clem to take some pic­
tures. Fennemore and Jack went into the creek cañon for pictures.
Here it was decided that Adair, Clem, and I should return to
Kanab for rations, and return here as soon as possible. The rest
to go on to the north and try to reach the Dirty Devil. If they
succeed, Jack, Fred, Johnson and Fennemore will go down the
river with the boat, while Thompson, Dodds and Andy return
here to meet us.

Saturday, June 8th. Adair, Clem and myself took 3 riding
horses, one with a light pack and 3 loose, and at 9 A.M. turned
our faces toward Kanab. Cached some things in the rocks until
we return. Had no packs to bother and at 3 P.M. were at [the]
cold springs, our camp of the 2nd. Made 21 miles.

Sunday, June 9th. Heavy frost last night. Broke camp at
7 A.M. Made the top of the Hog Back in ¾ of an hour. Dinner
camp at 11:30 A.M. on the Paria. Traveled down the stream
then over the cedar ridges to the second creek and made camp
at 5 P.M. From the Paria River to first creek about 2½ miles.
Distance between creeks about 3 miles. Made 28 miles.

Monday, June 10th. Heavy frost again last night. Broke
camp at 7 A.M. and followed over the cedar ridges where Adair
lost the trail. Made noon camp at the spring in Swallow Park.
Some Pa-Utes camped near, one of whom came in to see us, and
beg. Night camp at Clarkston at 5:10 P.M. Made 25 miles.

In the regional topography a natural course to the Colorado River for
the streams that drain the eastern side of the Aquarius Plateau seems to be
marked out along Harris Wash and across the desert lowlands at the base
of Kaiparowits Plateau. But the streams on the flank of the Aquarius follow
a surprising course. They unite to form the Escalante River, which plunges
through a ridge of upturned rocks and continues in a deep, narrow canyon to
its mouth.
Tuesday, June 11th. Broke camp early. Met Alfred Young about half way between Clarkston and Johnson, hunting a stray horse. Noon camp at Johnson, where we found Beaman and Bishop, they being unable to cross the Colorado at the mouth of the Paria on account of high water. They report the river higher than ever before known by white men, and still rising. Rose 6 feet while they were there, 2 nights. Made Kanab about 4 P.M. Surprised the folks as they were not expecting us. Stopped at Jacob Hamblin’s. A cloud-burst in Kanab on Monday, June 3rd, did considerable damage. Made 25 miles. A great deal of rain this season, for this country.

Wednesday, June 12th. In Kanab. Rain in afternoon so we could not leave. Adair quite sick.

Thursday, June 13th. Packed 3 horses and left Kanab at 11 A.M. Met Beaman on his way to the Buck Skin Mountains for pictures. Made Johnson at 4 P.M. Camped under a shed. W. D. Johnson has a fair stock of goods. Bishop says that he is going to Salt Lake City and expects to obtain employment in the University of Deseret. Fifteen miles.

Friday, June 14th. Started at 7:45 A.M. Noon camp at Clarkston. Noticed some peculiar wave making[marks] in a narrow part of the cañon about 5 miles south of Clarkston. For 200 feet up the rock is in seams from north to south. Above that 200 or 300 feet regular, showing that the former was deposited in agitated and the latter in still water. All white Jurassic (probably) sandstone. Left noon camp about 3 P.M. Made a dry camp about 9 miles out in a small valley surrounded by cedar ridges. Made about 21 miles.

Saturday, June 15th. Saddled at sunrise and rode about 2 miles to Black Tail Spring for breakfast. Let the horses graze a couple of hours, then started and reached the Paria River near sunset. Camped on the same spot as 2 weeks ago. Made about 28 miles.

Sunday, June 16th. White frost again last night. Adair very unwell. Broke camp about 8 A.M. Traveled up the Paria until near noon then stopped under a large pine tree for dinner, near the head of the stream. Cañon about ¼ mile wide. Walls from 250 to 300 feet high of white sandstone. Grass good. Adair very sick so we decided to camp until morning. Made about 13 miles.

Monday, June 17th. Broke camp early. Ascended the Hog Back and travelled down Potato Valley, stopping an hour at noon and made our old camp at the foot just before sunset. High wind all day and night. Quite cool.

The remarkable cross-bedding that characterizes the thick sandstones of the White Cliffs is well displayed in Skutumpah Canyon along the trail taken by Jones. It has been interpreted as a feature of ancient sand dunes.
Tuesday, June 18th. Wind strong from west with occasional showers. Day and night quite cool. While frost at night. Did nothing.

Wednesday, June 19th. Day very warm. Another day of waiting for our party to return.

Thursday, June 20th. Another day of anxious waiting. Helped Clem take some pictures from the cliff on right bank of the stream.

Friday, June 21st. The Longest day of the year was passed in waiting for the return of the party who went to the river. Adair and Clem frequently canvass the probability of their being molested by the Red Lake Utes. For my own part am not yet uneasy, but shall be unless they return by tomorrow night. Went with Clem for pictures. Crossed the creek, and a range of low hills of Basalt that divide this one from another that comes from the mountains to the northwest. The last is clear and soft. Probably comes from the snow. The first very dirty. At their junction, some half mile down the cañon, the difference is very marked. Went near 2 miles down the cañon. Found large cottonwood trees, some pine and box elder. Walls 500 to 600 feet of white sandstone, Cretaceous. In spots on the cañon are boulders of Basalt evidently washed from the mountains. White men, probably miners, have been here this spring. A plain trail goes up the clear creek, and down the cañon. Day hot.

Saturday, June 22nd. Another day of weary waiting. Nothing to do. Begin to be afraid that something serious has happened. They have gone into the country of the Red Lake Utes, a small band who jealously guard the country between the Red Lake and the Colorado River and say that no white man can visit it. Day hot, but night cool. Adair shot some rabbits.

Sunday, June 23rd. Looked anxiously all day for the return of our party. Decided to go up the trail in the morning and see where it goes. Heavy thunder, sharp lightning and some rain. Weather very cold for June.

Monday, June 24th. Took 3 horses and started to follow the trail which crossed the creek then followed the low divide between that and the clear creek for about 2 miles, then into the valley, crossing the clear creek some half a dozen times, and going sometimes over the hills and across the gulches. High walls of light-colored sandstone in many curious shapes on the right, going up, seamed with cañons. On the left nearly the same formation but distant from the creek from 1 to 2 miles, and lower hills between. Valley not more than half a mile wide, but filled with cottonwood, pine and cedar. White men had been up the creek this spring, probably miners, but whether they had returned or not could not tell. About 8 miles from camp the creek comes from the right
through a narrow cañón up which runs the Indian trail, that of our party keeping to the left up a gulch or cañón, which it follows to the top of the first ridge of the mountain, then across that and into a cañón where we found the first camp of the party. The low ridge that divides the 2 creeks near their junction is Basaltic boulders which continue to the mountain which seems to be composed of the same. The range extends from Table Mountain at the head of Potato Valley northeast and east to the Dirty Devil Mountains. General direction of trail from our camp northwest. Distance about 20 miles. From this camp the mountain seems to rise 1500 feet. This the party were obliged to climb, going nearly north, before they could turn east. About 4 miles from our camp we saw moccasin tracks; soon after the tracks of 2 unshod horses, all made quite recently. Watching closely we decided that Indians, not less than 4, had been following the trail within a few days. Found where their horses had grazed, and where they had turned to the right and gone up the steep side of the mountain. This, with the long absence of the party, led us to fear that they have had trouble with the Indians. Returning we found where the Indians had come from the mountains on the right. I felt very uneasy about the party. Adair and Clem wanted to give them until Thursday night—20 days. If they do not come then I for one am going to see what has become of them. Cold rain about noon. Back to camp at sunset. Rode 40 miles.

**Tuesday, June 25th.** Slow steady rain nearly half of last night. Day cool. Heavy thunder showers about noon coming from the west. All slept with tents.

**Wednesday, June 26th.** All took a walk across the hills to the clear creek. Found no sign of other white men or Indians. Told the boys my intention of going up the trail to see what had become of our party, after waiting one more day.

**Thursday, June 27th.** Adair said this morning that he would go with me, and of course, Clem will go. So we start in the morning if they do not come tonight. Baked some bread to take with us.

**Friday, June 28th.** Piled sagebrush around our little tent to keep the Coyotes away. Hobbled 3 of the horses, took 3 and struck out up the trail followed last Monday. Arrived at the first camp about noon, stopped an hour, then followed the trail over steep mountains, and through deep cañons until sunset and made camp in a beautiful little park beside a small clear mountain stream. The trail ran over rocks much of the way and it was slow work following it. Camped in some thick Quaking asps and slept 3 in a bed. Mosquitoes very bad. Made about 32 miles.

**Saturday, June 29th.** Started early, climbed a big mountain then over a very rough country, crossing 2 creeks, and about 9 A.M. came to a clear cold lake surrounded by mountain peaks.
The lake covered 25 or 30 acres, had no streams flowing into it, and is fed from the snow. One small creek was its only outlet, flowing to the southeast into Birch Creek. Here we found the second camp of our party. Looked a long time before finding the trail. Followed it 4 miles until we could see the Dirty Devil [Henry] Mountains, 5 in number, all Igneous. The country between us and them very rough, broken by canions and gulches. Decided to camp by the lake until morning in hopes of the arrival of the party. Again slept 3 in a bed. Very cold. Made about 5 miles. No late Indian sign. The lake is almost surrounded by Aspens.

**Sunday, June 30th, 1872.** Found that the horses had taken the back track, so shouldered our saddles and other equipage and followed them for about 2 miles, then saddled and on toward camp. After going 4 or 5 miles found the fresh trail of a number of horses coming in from the left. Recognized some of the tracks as our horses, so concluded that the party had returned and were in camp ahead of us. Pushed on and at 4 P.M. reached camp on Birch Creek and found Thompson, Dodds and Hattan. We were very glad to see them safe. They had been 12 days from this camp to the Colorado over a very rough country. Found the "Canonita" all right; left Jack, Fred, Johnson and Fennemore to bring her to the mouth of the Paria by the 15th of July. Spent one day at the river, and were 7 days coming back. Report the river very high. It has been up to the "Canonita," 50 feet above last fall. Now falling a foot a day. Climbed one of the Dirty Devil Mountains going in and one coming out. They are the highest points yet climbed on the trip. They saw one small band of Red Lake Utes, who were frightened and ran. The Dirty Devil Mountains are isolated peaks of Igneous rock, seemingly having been upheaved through a fissure; made 37 miles.

**Monday, July 1st.** Dodds, Andy and Adair took 15 head of the stock and started for Kanab. Cap. [Dodds] does not know, but he will have to go to Uintah and Salt Lake City, but hopes not. They will take a wagon from Kanab with rations, &c., go to the mouth of the Paria and fix the boats for their summer's work. Thompson, Clem and self staid behind. Expect to be about 10 days reaching Kanab. Kept 7 horses. I took observations for time and latitude, with Clem to take time. At 3:30 P.M. started up the valley, west. Made 8 miles and camped at the same place as on June 3rd and 4th.

**Tuesday, July 2nd.** Started to collect some fossils from the Jurassic cliffs. Started at 9:10 A.M. Made 13 miles and camped at the spring near the head of Potato Valley at 1:30 P.M. Laid in the shade most of the afternoon. Weather cold for the middle of summer.
Wednesday, July 3rd, 1872. Helped Clem pack up. Then he went up to the Hog Back and made three negatives. Thompson and self took 3 horses, went to the northwest and climbed Table Mountain, getting about 6 miles from camp and 2600 feet above it. Passed through a great deal of good pine timber on the foot hills. All the pine of any size on top of the mountain dead. Mountain covered with a heavy growth of Hemlock. About 500 feet of the top is gray limestone, seemingly much slaked. Under this, about 500 feet of pink limestone, the first I ever saw or heard of. The whole line of Pink Cliffs to the west seems to be the same. The base of the mountain is, probably, Triassic. Then Jurassic—above this Cretaceous, the limestone Tertiary. Had a fine view of the country in all directions. To the northwest & north the snow-covered Wasatch. This is part of the same range; to the northeast the Wasatch running to a salient where the range trends to the north. Beyond this, to the east northeast, the Dirty Devil Mountains. Beyond the Cañon of the Colorado. Southeast Mount Howland [Navajo Mountain]. South—the Paria River and cliffs, with the broken country beyond. Saw a wide valley and fine lake [Pine Lake] at the head of the right branch of the Paria, nearly west of Table Mountain. Back to camp near sunset. Did ample justice to a kettle of beans for supper. Clem made 3 negatives. Night very cold. Frost. Trend of east face of Table Mountain 29° Prismatic Compass.

Thursday, July 4th. Prof. and self took 3 horses and climbed the point that we have called mountain [Kaiparowits Peak] to the right of Table Mt. Formation very similar to Table Mountain. At the extreme south end, where we established Geodetic Point "P" the limestone has changed into chalk. Point "P" is 1700 feet above camp. Clem staid in camp.

Friday, July 5th. Started at 8 A.M. Stopped on the Paria for dinner, and made Buffalo Berry Creek at 5:45 P.M. The other boys had camped here going in. Night very warm.

Saturday, July 6th. Started at 7:30. Made the spring in Swallow Park at 11:15 A.M., and stopped for dinner. Started again at 1:10 P.M. and made Clarkston at 5:30 P.M. and made camp opposite the most southerly house. Met there a man who gave his name as Joe Wood. Claimed to be a Gentile and had brought a herd of cows here, but he talked very much like a renegade Mormon. Made 28 miles.

Sunday, July 7th. This morning Thompson took 3 animals and started for Kanab. Decided that we did not need to go to the

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Doubtless Thompson and Jones were the first white men to ascend Table Cliffs, the southernmost projection of the Aquarius Plateau. As this bold headland rises to a height of 10,000 feet and is walled in by brightly colored vertical cliffs, it affords astounding outlooks. As a comprehensive viewpoint in the plateau country of Utah and Arizona it ranks with Navajo Mountain.
Pink Cliffs north of Stewart’s mill. Thought that we could locate Geodetic point “O” and “P” and from them locate the Dirty Devil Mountains, from Point “B” on the Vermilion Cliffs, and Point “D” on the Kaivwav. So Prof. will go to Kanab and meet me at the foot of Johnson Cañon and we will climb. Clem and I went down the cañon about 2 miles and he took 2 pictures. Back for dinner, then packed up and started for Johnson. Expected to make some negatives on the way, but Clem had no glass clean. Camped ¼ mile north of the horses [houses ?]. Found Beaman at Johnson waiting for the Major. He had been on the Kaivwav Mountains with Pa-Ute Frank, and had made some fine pictures. Made 12 miles.

**Monday, July 8th.** This morning could not find our horses and spent the whole day in looking for them. Slight rain in the afternoon. Find the cliffs much cut by cañons. Found animals near night.

**Tuesday, July 9th.** Found our horses about 3 miles from camp on the hills. Left Johnson at 10 A.M., and reached Kanab at 1:30 P.M. Found Andy in camp on the creek just below the Fort. Cap started yesterday for Short Creek Ranche, where we heard the black Prince was. Some of the party will start for the mouth of the Paria tomorrow. Very hot. Rain at night. Thompson went out to the Navajo Well yesterday, but not finding me came back. Made 15 miles.

**Wednesday, July 10th.** Rain most of the day. Wrote some letters. Nothing from the Major yet.

**Thursday, July 11th.** Andy and Clem took a wagon and 4 horses and started [for] the mouth of the Paria."""" Thompson, Adair, self and one pack horse and went to climb to Pont “B.” All camped at the Navajo Well. Made 18 miles.

**Friday, July 12th.** Climbed to Point “B” but found that we could not see to the points we wanted. Thompson and Adair returned to Kanab. I went to Johnson after some horses. Made

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²²²For nearly a month after returning from the mouth of the Dirty Devil, the members of the expedition remained within ready reach of their headquarters camp at Kanab awaiting the long delayed arrival of Powell and making preparation for the continuation of the river traverse begun in 1871. Jones spent part of the time in a survey of the southern Kaibab Plateau—particularly its western rim—and in completing the topographic map of the region centering at Pipe Spring. On July 11, Hattan and Clem Powell took a wagon load of provisions to the mouth of the Paria, and after Powell returned from Salt Lake (August 2) the preparations for the river trip were soon completed. On August 6, Jones started for the Colorado River, stopping enroute at Summit Valley on the Kaibab Plateau, House Rock Springs, Jacobs Pools, and the rim of Marble Canyon east of Badger Creek, and reached the end of his journey on August 10. A few days afterward Beaman, Powell, Thompson, DeMotte, and Mrs. Thompson came into camp. Thus at Lees Ferry on August 13 the overland parties joined the crew of the "Canonita," and the members of the expedition who had remained in active service once more were united.
12 miles and climbed 1600 feet. Met, at Johnson, a soldier from Beaver [Camp Cameron]. Staid with Beaman.

Saturday, July 13th. Left Johnson at 1 P.M. At Kanab at 4:15 P.M. Cap came in Thursday without finding Prince. Cap and self cooked in our store room and slept in the wagon. Made 15 miles.

Sunday, July 14th. For a wonder did nothing but write letters.

Monday, July 15th. Thompson, Adair and self taking Pa-Ute Frank and Charley as guides started to try and reach the Colorado from the Kaiwaw Mountains [Kaibab Plateau]. Took 6 horses. Started at 10 A.M. Soon saw ahead of us 4 Pa-Ute men and 2 squaws with 3 ponies. Frank said they were going to the mountains to hunt. Travelled a little south of east over the same road as took [in] February. Hard rain in afternoon. Made camp at Oak Spring at 6:45 P.M. Some prospectors had been there since we were last, and had built a wick-i-up of Cedar limbs around a tree. In this we stopped. The Pa-Utes camped near and were ready to dispose of any surplus rations. They had killed 3 rabbits so we gave them nothing. Frank and Charley ate with us. Made about 30 miles.

Tuesday, July 16th. Started at 7:45 A.M. Three miles up Stewart's Cañon came to the houses of John Stewart and Almon [Ammon] Tenney who have a herd of stock and are farming a little. Here the squaws stopped, and one of the men. Three followed us. Went up Stewart's Cañon about 5 miles nearly south, then bore a little west of south on to the mountain and travelled in the same direction as Capt. Dodds and self last February. Made about 3 miles and stopped for dinner at 12:30 P.M. Had carried water from Stewart's Cañon. The 3 Indians said they were very hungry but we told them to hunt game. Started at 1:45 P.M. Travelled nearly south for 3 miles on the mountain and through small cañons or valleys among large timber consisting of pine, fir, spruce, balsam and aspen, following an old Indian trail, and made camp at 3:15 P.M. at a small spring in a beautiful little valley. The Pa-Utes used to camp here and hunt. All the Indians soon started out hunting. This mountain is the prettiest I have seen since leaving the Uintahs. Rocks all limestone and Carboniferous. Heavy thunder and some rain in afternoon and at night. Camped under a large spruce tree. Made in all day 14 miles. Indian “Bishop” came in near sunset with a deer, and Charley soon after with a porcupine. We traded for one quarter of the venison, and had a good supper.

Wednesday, July 17th. Started at 7:30. Followed the old Pa-Ute trail winding around through the cañons, and shortly after 9 A.M. reached the brow of the mountain. The Cliff very
steep for near a thousand feet, then a plateau or valley, then deep canons and steep walls to the river that was about 3 miles distant to the south and about a mile below us. In the valley below us was a spring and the Indian trail led down the cliff. We did not go down knowing that it would be impossible to get horses to the river. Spent some time in looking around, and had dinner under a pine tree, using water brought from this morning’s camp. Started back at 2 P.M. Struck across the mountains without any trail and reached the upper houses in Stewart’s Cañon at dark. The Indians wanted to go down to Tinney’s [Tenney’s] house, near which the squaws were camped, and did so after supper. From morning camp to river 6 miles, from river to night camp 25 miles. Thirty one miles.

Thursday, July 18th, 1872. Started at 7:45: At Tinney’s found all the Indians ready to start for Kanab. A runner had brought word that Ben’s squaw had died. She was a sister to Frank’s squaw. Also learned that Tinney had captured the Mexican who stole Winsor’s horse and that he and Stewart had both gone to Kanab. Reached a gulch 10 miles from Kanab at 1:30 P.M. and stopped for dinner. Started at 3:05 and made Kanab at 5:20 P.M., several days earlier than we were expected. No word from Major Powell. No letters for me. Made 38 miles. Took up my quarters in the wick-i-up where our rations were stored.

Friday, July 19th, 1872. Spent the day in copying, and writing letters. W. D. Johnson came in the P.M. He left the mouth of the Paria on Sunday last. They got there with the "Canonita" Saturday, the 13th. All well though he claims to have hurt his back and is afraid he will not be able to go down the river. Have no idea he will go but think he intends to go to Salt Lake City, his wife being there. Capt. Dodds started north last Wednesday, the 17th, with 2 horses. Expects to be back within a month.

Saturday, July 20th. Rode Bay Billy to Pipe Springs 20 miles in afternoon. Winsor is milking 100 cows and making about 60 pounds of cheese per day.


Monday, July 22nd. 1872.

Thursday, August 1st [1872]. Went 5 miles west of Pipe Springs and climbed to Geodetic point “H” to put up a new flag. Back to Winsor’s at noon. Staid the rest of the day and night.

218 In the existing manuscript, entries for the period July 22-31 are lacking. Thompson reports that Jones spent the time at Kanab drafting maps. The hiatus in Jones’s diary is amply filled by Dellenbaugh and Clem Powell in their graphic descriptions of the social, religious, and economic life of Kanab in 1871-72.
Very warm. Winsor has put up a large steam vat and is making about 70 pounds of cheese per day.

Friday, August 2nd. Left Pipe Spring at 9 A.M. and reached Kanab at 2 P.M. Found [F. M.] Bishop and Professor De Motte of the Wesleyan University, Bloomington, Illinois, who had come from Salt Lake City with a team of 4 wild mules bringing something for us. Started on Monday, July 22nd. Prof. De Motte came from Illinois with Major Powell, more to see the country than anything else. Intends to return before the first of September. Bishop says he came to accommodate the Major. Expects to teach in Salt Lake City. About 5 P.M. the Major came. He had come to Toquerville by stage, then hired a team. He says that he will remain in this country 2 years longer engaged in surveys. Has been appointed Commissioner to locate the Indians of southern Utah and northern Arizona on reservations. Now is in a very great hurry to get to the river. Talked of starting in the morning, but was easily dissuaded. Have no doubt that the boys at the river are very uneasy.

Saturday, August 3rd. Went to Johnson again after some of the horses. Thompson gathered up the stock around Kanab. Adair went to Long Valley to get "Frank" to come and see Major Powell. Beaman went from Johnson to Kanab with me.

Sunday, August 4th. Fixed things for the river. Went to church in the Bowery and heard discourses from brethren Robinson and Everett. Beaman and the Major settled up.

Monday, August 5th. Powell, Thompson, De Motte, and Adair got ready to start to Kaivwav Mountains and from there to the mouth of the Paria. Mrs. Thompson goes to the mountains to stay at Stewart's 2 or 3 weeks. Bishop started to Beaver with a team to bring us rations. Lyman Hamblin and myself took the wild mules and a wagon and started for the mouth of the Paria. Drove to Johnson and turned our team in a small pasture. Had quite a time in getting them hobbled [hobbled].

Tuesday, August 6th. Took some of Beaman's things to carry to the Colorado. He will be along in a few days on his way to the Shinimos and Navajo country to make photographic views. Took 2 hours to hitch up. Nine miles to the Navajo Well. Found a
little water that odored [smelled] so as to be scarcely drinkable. Done about 15 miles farther and camped in Summit Valley on the Kaivivav [Kaibab Plateau]. Had a fight to get the mules hoppled. Night quite cool. Made 24 miles.

**Wednesday, August 7th.** Had another fight to catch and harness the mules in which both of us had our hands skinned, and I a kick on the shoulder. Made about 20 miles and reached House Rock Spring, or rather within about a mile, as near as the wagon road goes, at 4 P.M. Made camp and carried water for cooking. Wind very high. Slight rain at night.

**Thursday, August 8th.** Waked at daylight and saw a fire by a small stone house near the spring and near us was Jack’s "Nigger." Looked and saw some one who I supposed to be Jack, near the fire. Fired 3 shots which were answered, and the person started to come to our camp. He proved to be Fred, who left the river Sunday evening, reached Kanab Tuesday afternoon, started back Wednesday morning. He reported that the boys were very anxious, and that Fennemore was rapidly running down. Complains of pain in his lungs. He undoubtedly has consumption, but does not think so. He is going home. After talking a while we got breakfast and all travelled together. Made 15 miles and stopped at Jacob’s Poits [Pools] at 1 P.M. for dinner. Here John D. Lee has built a willow shanty and here lives Rachel, one of his wives. Keeps about 40 cows. Drove 10 miles through heavy sand, and made a dry camp. Rained all around us so we all slept under the wagon on the sand. Mules nearly tired out. Made 25 miles.

**Friday, August 9th.** Started early. Made 15 miles to Soap Creek about 11 A.M., where we watered our team and again filled our canteens. Drove 7 or 8 miles farther and stopped for dinner.\[231\] Crossed Clear [Badger] Creek within 2 miles. A very little water in the cañon. Reached the bank of the Colorado about 5 P.M. In going along the bank we got fast on a big rock within a mile of camp. Fired 3 shots and soon the boys came, when we unloaded, got over the rock, turned to the Left, went down a narrow, steep cañon, and came out at Lee’s house, a rough log shanty on the Paria about a half mile from the Colorado, where we left the wagon, turned the mules up the cañon of the Paria, waded the stream and went down through the willows to camp. Got in at dark. Drove 20 miles. Mules played out. The line of Vermilion Cliffs runs from the Virgin River near Toquerville, turn[s] to the north near the Navajo Well, crosses the Paria, turns south around the north end of the Buckskin and

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\[231\] The pioneer road from Utah to Arizona reached Marble Canyon near the mouth of Badger Creek, then followed the canyon rim eastward to the Paria River, where it crossed the Colorado and continued southward along the base of Echo Cliffs.
continues south for 10 miles below House Rock Spring, then runs east, then north to the Paria at its mouth, then across the Colorado, south 25 miles, then are [is] said to continue south-east to the country of the Shinimos.

Saturday, August 10th. Unloaded our wagon, carried the things across the Paria and down to camp. Spent the rest of the day in trying to keep cool, which was a difficult matter on the sand with the Thermometer 100° in the shade.228

As early as 1867 (?) the Mormon pioneers had learned that the mouth of the Paria marked the place where the Colorado River could be reached by pack trains—if approach "dugways" were constructed, by wagons—and its slowly moving currents could be crossed by rafts or makeshift boats. Clem Powell records the statement of "old timers" that the crossing was discovered by tracing sheep stolen by Navajos and driven across the Colorado on the ice. Jacob Hamblin, who previously had crossed the river at the Ute Ford and at the mouth of the Virgin River and at Grand Wash, reports that in October, 1869, "20 white brethren and 20 Paiutes crossed the Colorado where Lee's Ferry now is." In 1870, on his way to Fort Defiance, Powell crossed in a clumsy scow, the "Canon Maid," which was used by others in 1871. J. H. Beadle, on his horseback rambles through Arizona and Utah, found difficulty in descending the cliff and crossing the river (June 18, 1872). He writes:

A shout of surprise brought me to that side, and I saw the boys had discovered a boat cached against a rock and covered with brush, leaving only the bow visible. They rigged an arrangement to let me down with lariats, where they had climbed, and we all went to work on the boat. In three hours we had it out of the sand and brush, and into the river; then the Navajoes were clamorous for me to make an immediate trial of crossing. But we found no oars. The boat was eighteen feet long, with places for four rowers; it had two compartments, and on the stern was the name "Emma Dean." I con­cluded, correctly as it proved, that it was one of Major Powell's. But all our search brought to light no oars. They were cached so effectually that even the Navajoes could not find them.

Early in 1872 John D. Lee began the construction of a ferry boat made of lumber brought from the Kaibab Plateau, and later in the year "50 men at Brigham's order built dugways on both sides of the river and anchored the cable." Thereafter the crossing became an essential link in the Utah-Arizona wagon route and maintained its prominence until a bridge was built across Marble Canyon (1929). Thus after a half century of service the ferry and its picturesque approaches were abandoned. Lee, who had established his home (Lonely Dell) at the ferry site in the winter of 1871-72, served as host for hundreds of travelers until his arrest (1874) and execution (1877) for participating in the Mountain Meadows Massacre (1857). After Lee's arrest the ferry was operated by Emma, his 17th wife. The members of the Powell expedition speak in glowing terms of the hospitality of Lee and his wives. Dellenbaugh remarks: "Mrs. Lee, 17th, proved to be an agreeable woman and she and her husband treated us very kindly, inviting us as we had nothing but bread and coffee, to share their table." W. C. Powell writes (July 15, 1872):

The boys have been boarding with Mrs. Lee *** in a small cabin adjoining 2 or 3 acres of cultivated land. Mrs. Lee lives with 7 small children alone part of the time, Lee dividing his time between here, the Pools and House Rock. Lee came in (July 21); boasts of having 18 wives and 62 children.
Sunday, August 11th. Again tried to keep cool.

Monday, August 12th. Same as yesterday.

Tuesday, August 13th, 1872. Again spent the day in trying to keep cool. River rising and colored with red dirt. Fennemore not so well. In the evening, Major Powell, Prof. DeMotte, Prof. Thompson and wife, Adair and Indian Ben, came in. They have spent the past week on the Buckskin Mountains. Jack, Fred and self took DeMotte and Thompson [for] a ride on the river.

Wednesday, August 14th. The Major in a great hurry to move, so loaded the boats. Jack is now chief Photographer of the expedition. He and Clem will attend to the pictures. Prof. De Motte climbed on the west side. We have unanimously voted him [to be] a brick. Indian Ben went up the Paria Cañon after the stock. At 5:30 P.M. we broke camp and ran ¾ of a mile. Ran a small, swift rapid ¼ of a mile after starting, then a short one just before landing, but big waves. In the last Jack broke an oar. Mrs. Thompson rode on the cabin of the “Canonita.” Thompson is to steer the “Canonita,” with Clem and Andy at the oars. The crew of the “Dean” the same as last year. Made camp on right bank in mouth of a small cañon just where the wagon road leaves the river. Two rapids. Made ¾ of a mile.

Thursday, August 15th. Spent the morning in writing letters. In the afternoon Prof. De Motte, Mrs. Thompson, Adair, Hamblin and Fennemore started for Kanab. Poor Fenny, he was completely exhausted. In the evening Major and Fred measured 600 feet of the Triassic.

Friday, August 16th. Took the boats out and fastened some strips each side of their keels to protect as much as possible from the rocks. Filled 2 Barometer tubes with mercury. In the afternoon Major and Fred climbed on the east side of the Paria to get measurements for the beginning of a Geological Section. Beaman came in at noon, and with them [him] a Mormon by the name of [James] Carlton. They intend to cross the river in the “Nellie Powell,” and go over to the Navajo country, to be gone 5 or 6 weeks. Spent the afternoon fixing the boats.

Saturday, August 17th. Finally broke Camp No. 87 and started down the river. Stream 7 feet higher than last fall.

Fennemore, because of illness termed by his colleagues “consumption,” was unable to continue his photographic work. He returned to his home in Salt Lake City, August 14.

The expedition plans for 1872 included a traverse of the Colorado below the mouth of the Paria in continuation of the traverse made in 1871. The down river trip was to start as soon as practicable after the land party had returned from their trip to the Dirty Devil River (July 9) and the river party had brought the “Canonita” to Lees Ferry (July 13). But as Powell had decided to direct the boat party in person, little could be done during his absence. For reasons not fully explainable, Powell did not reach the river until August 13. The boats left their anchorage on August 17, a time of
Ran 4½ miles passing 2 rapids, running between low walls, about 150 feet high at camp and 700 feet at noon camp. Jack made 2 good pictures. Dinner camp 10:30 A.M. Started again at 1 P.M.—ran 1½ miles, when we came to a big rapid where we unloaded and made a portage near a fourth of a mile on right side, then on to another rapid just where the cañon of Soap Creek comes in on the right. Here we unloaded and made camp on right side at 5:45 P.M. Walls 900 feet high. Upper 600 feet vertical. Dip north. Made one portage. Ran 9½ miles. Ran 4 Rapids.

Sunday, August 18th, 1872. Began carrying our things down over the boulders at 7 A.M., then started the boats. At one bad place took the "Dean" out and rolled her on sticks over the rocks. Concluded to try the "Canonita" in the water, brought both boats safe to the beach below and loaded by wading into the waves. The boys made some pictures of the rapid from below. Pulled out and ran 2 miles in a very few minutes through swift water running 5 rapids, 3 of them big ones. Landed on left bank. Found a thin seam of coal. Ran a mile farther, landed on left bank at 11:40 A.M. for dinner. No footing near the water so climbed up a crevice about 25 feet and cooked in the shade of the cliff. Rapidly running the rocks up. Wall at noon 1200 feet high. First, from the water 40 or 50 feet of heavily bedded gray sandstone, then 500 feet of red Carboniferous, then 500 or 600 feet of vertical, light colored sand and limestone. A big rapid just below us. Wall so steep that the only way to get to it was by means of a rope. Started again at 2:15 P.M. and immediately a big rapid for ¾ of a mile, then through swift water to 2 more larger rapids, then 2 more rapids in half a mile, and soon after brought up at the head of another big rapid where we made a portage on right bank, and Camp 89 at foot of rapid on a small sand beach. Some rain at night so we spread our beds under the cliff & slept to the music of the waves. Made 10½ miles. Ran 10 rapids and made one portage and let down by line once.

Monday, August 19th, 1872. Broke camp at 7:30 A.M. Immediately ran a rapid, then another big one, then 2 more in go-

year when the water of the Colorado River is above its normal height. In organizing the traverse, Powell, Jones, Hillers, and Dellenbaugh were assigned to the "Emma Dean" and Thompson, Hattan, and Clem Powell to the "Canonita." The "Nellie Powell," the boat least fit for the trip, was left behind. This passage through the upper Grand Canyon—"131 rapids, 7 portages, overturned boats"—is also described vividly by Dellenbaugh and, in less poetic terms, by Thompson.

"Seams of coal" probably refers to black shale. No coal has been found in the walls of Marble Canyon.
ing 1¾ miles and made a short portage on left bank past a fall just below where we saw the first granite [schist and gneiss]. Pictures at the portage and Fred climbed for horizontal measurement. Running up the dip & wall getting higher. Stopped for dinner at foot of portage, then let down by line a long distance, then run a little way through very swift water and finished our day's work by letting down by line near a fourth of a mile. Jack took some views at the last portage. Worked hard this P.M. to make 1¾ miles. Ran 4 big rapids, let down by line 3 times, and made one portage. Made 4¼ miles. Camped on left bank at 5:15 P.M. The "Canonita" had received a jam in pulling over the rocks and leaked in center cabin, so pulled her up on the sand and repaired.

**Tuesday, August 20th.** Broke camp at 9:10 A.M. Immediately ran a rapid, then made a short but hard portage on left bank, then ran 3 rapids in a mile and a half and landed among big rocks under the cliff at head of another rapid. Stopped here for pictures and dinner. Found the "Canonita" leaking in front standing room from a jam on the rocks at last portage, so repaired again. She ran on a rock in the last rapid, but did no damage. Pulled out again at 1:35 P.M. Ran a big rapid the first thing where the "Dean" whirled twice around in the waves, nearly throwing me out once; then 7 rapids in going 3½ miles and made Camp No. 91 on right bank on the sand near a narrow lateral cañon. Wall in 3 terraces. First of marble 300 feet, considerably colored from the red rock above. Height of wall 1800 feet. Made one portage, and ran 12 rapids. Distance 6¾ miles.

**Wednesday, August 21st, 1872.** Jack found that his negatives in the "Canonita" were all wet and spoiled, so we lose most of the pictures in this cañon so far. Started at 8:15. Ran a rapid then through comparatively still water a mile and stopped for pictures. The "Dean" crossed to left bank—landed on a small sand bar at the mouth of a deep alcove or cave. The river bends from south to nearly east just below camp, and a spring pours out of the marble wall on the right, at the turn, at a height of near a hundred feet. A quantity of ferns were clinging to the wall, and a small bird was singing. The only signs of life seen in the cañon so far.²² Started again, ran a mile and a quarter and stopped for dinner on right bank on a talus of loose rock with some sand. More pictures. Barometer reached more than 27 inches for the first time. Started at 2:40 P.M. and ran 3

²²Just below the mouth of Paradise Canyon 32 miles from Lees Ferry, two springs that emerge from the canyon wall about 50 feet above the river are surrounded by profuse growth of ferns and flowering annuals. Powell in 1869 named the place "Vasey's Paradise" for George W. Vasey, botanist of the U. S. Department of Agriculture (1872-1893).
rapids—2 miles, when we came to a big one where we hesitated some time, but finally decided to run. Rode the biggest waves yet ran. I lost my steering oar, got out another; the lost one overtook us and I picked it up before reaching the foot of the rapid. Both boats nearly full of water. From here ran several small rapids and made Camp No. 92. Left bank on a sand bar at 5:30 P.M. Saw the first Meskeet [Mesquite]. A species of locust. Walls at camp 3000 feet. One thousand feet of Marble from river. Ran 10 rapids. Made 12½ miles.

Thursday, August 22nd, 1872. Broke camp at 8:40 A.M. Ran a rapid to begin with, then 6 more in forenoon, and stopped for dinner on Right bank on a sand bar at 12 M., having run 9½ miles. Marble running up. At dinner station a talus of greenish shale of 200 feet under it. Stopped once for pictures. Started out again at 2:10 P.M. Soon passed 2 canions on right up which we could see the trees on the Kaivivav Plateau. Ran 10 rapids in 8 miles, beside very swift water for 2 miles which we called one continuous rapid, which brought us to the Little Colorado, a stream coming in on the left from the southeast, about 3 rods wide and 2 feet deep, its water of a bright red and so badly impregnated with salt as to be unpalatable. Walls this afternoon wider and quite rough. At mouth of Little Colorado 350 feet of green shale; above that 100 feet of Marble, then a stratum of red sandstone capped by 500 feet of gray limestone. Altogether 3000 feet high. Left our boats at the junction and carried our things up the Chiquito a mile to the shade of some mesquite bushes. Carried water from the Colorado, half a mile away. Made one line portage from right bank over a low, rough rapid. Water between the rapids in great eddys and whirlpools. Very hard rowing. Ran 18 rapids. Made one line portage. Distance 18½ miles. Camp No. 93 left bank 5:20 P.M. From mouth of Paria to mouth of Flax or Little Colorado, 61½ miles. Rapids run 60—Portages 4. Let down by line 5 times.

Friday, August 23rd. Near camp was a rough stone fire­place and several corn cobs. Up the Flax [Little Colorado] are old trails. Probably the Co-o-me-nes [Coconinos] and perhaps the Navajos had been here. In camp taking observations, pictures, &c. Major and Fred climbed to measure height of wall. Measured cliff on left bank Colorado just below mouth of Flax

The salty efflorescence on rocks near the mouth of the Little Colorado was gathered for use by the Coconino and the Moenkopi tribes. The site was reached by trails that led along the bed of the stream and by descending cliffs nearly 2000 feet high.

This record—61½ miles—illustrates the accuracy with which Jones made his observations. The distance measured with the most modern instruments is 61 2/8 miles.
Saturday, August 24th. Took Lunar from sun at 8 A.M. Broke camp at 9:20 and ran 4½ miles in 40 minutes—running 6 rapids, the first half a mile long, with small waves, one other a mile long and one short one with big waves. The wall most of the way with talus for 150 feet, then vertical near 3000 feet. Grand Cañon begins at mouth of Flax. Made camp at 10 A.M. on right bank on a sand bar to examine a singular outpouring. Spent the day here. Rapids run 6. Miles 4½ —Camp 94.

Sunday, August 25th, 1872. Crossed the river to examine a vertical mass of black rock. Found this to be metamorphosed and found a lode of copper ore with traces of silver. Major and self went up the valley of a small creek, called Qua-gent Creek180 and spent the rest of the day in a vain search for fossils, and in the examination of the rocks.

Monday, August 26th. Major, Prof., Fred and self spent the day in traveling over the hills up Qua-gent Creek. No Fossils. Left Jack to take the barometrical observations. Found one barometer broken.

Tuesday, August 27th. Found this morning that our last barometer was broken, so laid by to boil tubes. A few large mesquite trees at camp. Broke camp at 10:20 and immediately ran a bad rapid, and continued to run that kind until we had passed 10 in going 6¾ miles, when we made Camp No. 95 on a sand bar on left side at 11:40 A.M. The country on both sides of the river much broken by hills of shale and black and red rock. The real walls back from 1 to 3 miles. We are running through the Kaivivav Plateau. Estimate its height above the river as from 5000 to 6000 feet. Rocks near the river metamorphic. Higher one [is] Carboniferous. Saw 2 mountain sheep just as we were landing, but they got away among the hills before guns could be got out. Andy and Fred followed them a long way, but without getting a shot. After dinner Major, Fred and self crossed the river. The former to climb among the hills up stream, I to go to the foot of a cliff some 2 miles away and 1375 feet above the river. Ran 10 rapids, distance 6¾ miles. Got into camp at 8 o'clock.

Wednesday, August 28th, 1872. Broke camp at 8 A.M. Made a line portage at the end of a mile, then ran 3 rapids within a mile, then found comparatively smooth water for a mile further when we stopped for pictures, and staid for dinner

180The position of Qua-gent Creek as given by Jones is that of Chuar Creek, which ends in a lava-walled canyon. Quagent (Kwagunt) Creek enters the Colorado above the mouth of the Little Colorado. Modern maps show 17 tributaries to the Grand Canyon between the Little Colorado and Bright Angel Creek.
on left bank at 10 A.M. at head of another rapid. Walls of black rock very rough. Pulled out at 12:20 P.M. Ran a big rapid soon after; let down by line on left side, then another rapid, and a portage on left side, where comes in through a deep gulch. Opposite is a dyke in the wall. Called the stream Dyke Creek [Cardenas Creek ?]. The portage was at the head of a long series of rapids reaching as far down the river as we could see with but little break. Just as we began the portage the rain came on a very cold one, and continued into the night. In lifting the "Canonita" over a rock Jack hurt his back, entirely disabling him. Cold and wet we pitched our tents, for the first time on this trip, and early rolled up in our blankets to get warm.

Granite in sight just below camp. Made a Camp No. 96 on left bank, on the sand, at 4:30 P.M. Ran rapids. Let down by line twice, and made one portage. Distance 6 7/8 miles.

Thursday, August 29th. Pulled out at 9 A.M. into a big rapid 3/4 of a mile long. At the foot found the granite just at the water's edge. Ran 2 more rapids, and swift water all the way, where the boats were badly tossed by whirlpools and eddies. Stopped for dinner and to get pictures on right bank at 11 A.M. Walls very rough, about 1000 feet nearly vertical on river, but rising back on either side 4000 or 5000 feet. River narrow. Walls of dark granite. At our feet a big rapid with a fall of 10 feet in 4 rods, the waves madly dashing and leaping, tossing from side to side, lashed into a sea of foam for half a mile. Decided to run, so battened down hatches, inflated life preservers, had kettles ready for bailing and at 1:45 pulled into the waves. We went through safe, but shipped a good deal of water. Pulled into an eddy to wait for the "Canonita." We all decide that this was the biggest rapid we had ever run, and probably the largest that boats ever ran. Ran 3 more rapids and came to one where the walls were so steep that we could get no good look at it, but pulled in to a very small cove on the right. Walls too steep and high to climb so held the "Dean" and let the "Canonita" down past her; then they held on by the rocks and passed the "Dean," with Jack and I in to the head of the fall where we wedged her between 2 rocks; made her fast and caught the "Canonita" as she came and fastened her among the rocks. Fred staid behind on the wall to hold the line and was pulled in to the boat by the rope. Unloaded and spent the rest of the day in making less than 1/4 of a mile. Wall very steep. Camped on right side on the rocks. Built a fire against the cliff wall, and just as supper was well under weigh [way] the rain came, put out the fire, and disarranged things generally. Fixed up a cover for the fire and began again. After supper each man located himself as best he could, and prepared to pass the night. Found a place where my head would rest against
a big rock and feet hang over another, and slept pretty well. Ran 7 rapids, most of them big ones & began a hard portage. Distance 8 miles. Walls over 500 feet at camp.

**Friday, August 30th.** Worked hard until 2 P.M. to make less than $\frac{1}{6}$ of a mile along the steep Granite wall. Hard rain about 1 P.M. and showers the rest of the day and night. Found both boats badly jammed, so unloaded; pulled them on to the rocks at the water's edge for repairs. Near night the river began rising and came up 2 feet in an hour. We kept moving our things higher among the rocks, and pulling the boats up by means of lines until we left them at dark 4 feet above the water, against the steep wall. Made Camp No. 98—50 feet above the river on the solid Granite. Slept as best we could among the sharp rocks. Rain most all night. Made $\frac{1}{6}$ miles.

**Saturday, August 31st.** The river risen 6 feet. Lowered the boats; one man held to each to prevent their being dashed in pieces against the rocks. Found a big hole in the center cabin of the "Dean," so pitched our things in fast as possible, jumped in and ran the rest of the rapid $\frac{3}{6}$ of a mile, with the water rushing into the boat in a stream an inch big. Landed in a little cove on right side, unloaded and pulled the "Dean" out for repairs. Granite 1000 feet high. River not more than 150 feet wide and very swift. Started out again at 4:15 and had the most exciting ride of my life. For 5 miles the river is not more than from 150 to 200 feet wide. Walls vertical, of dark Granite, current swift, and full of whirlpools that at times almost drew our boats under. Passed in this distance 6 rapids. Ran one more rapid, and at 5 P.M. made Camp No. 99 on Right bank on a sand bar, just above the mouth of Bright Angel Creek, a clear cold stream, 6 inches deep and 10 feet wide, coming from the north off of the Kaivav Plateau. Ran 9 rapids, one $\frac{3}{4}$ of a mile long; landed there to look at rapids and ran $7\frac{3}{4}$ miles in 45 minutes. Ran in all today 10 rapids and made $8\frac{1}{2}$ miles. Found Shinimos ruins at mouth of Bright Angel Creek.\[150\]

**Sunday, September 1st.** Started at 10 A.M. Ran 9 rapids and stopped for dinner on left side on a sand bar. Started at 1:20 P.M., came to a bad fall at the end of a mile and made a portage on left side. Two gulches on left. Found the "Canonita" leaking, so made Camp No. 100 on left side on a sand bar at foot of portage to repair. Ran 9 rapids, and made one portage in [safety?]. Got thrown out in one big rapid.

**Monday, September 2nd, 1872.** Broke camp at 8:15 A.M. Ran a big rapid to begin our day's work, then 2 more in going less than 2 miles and came to a fall of 10 feet in 30 rods. Made a

\[150\] The name Bright Angel was applied by Powell to the clear stream that rises near the present Grand Canyon Lodge in contradistinction to the muddy Dirty Devil.
portage \( \frac{1}{4} \) of a mile long on left side, then ran a rapid \( \frac{1}{2} \) a mile long and came to another bad rapid where the rocks reached clear across the river and the water fell from one ledge to another. Began a portage on left side. Jack and Clem made some pictures, one showing the “Canonita” passing a large rock. Began work again as soon as dinner was eaten, finished the portage, then ran a short rapid, soon one \( \frac{7}{8} \) of a mile long, then 11 more, one a mile long and several very big ones in going 8 miles, and made Camp No. 101 on left side. Ran 16 rapids and made 2 portages. Distance 15% miles.

**Tuesday, September 3rd, 1872.** Started out at 8:15 A.M. Ran a small rapid the first thing, then into another with short but very big waves that filled our boat. Two struck over the bow filling the front standing room for the first time. When we thought we were out of the worse [worst] the boys began bailing. A wave struck the port side, a whirlpool caught the stern and in an instant the boat was keel up and we in the water. Fred and I hung to the boat. The Major sank in the middle of the whirlpool and Jack was thrown several feet from the boat and went down head first. Both come up together and near the boat. Jack caught. The Major floated to the bow and caught the rope. He was the only one that had a preserver on, the rest in the boat. We climbed the craft and righted her; all got in and pulled to the left wall, bailing with our hats, not drifting more than \( \frac{1}{4} \) of a mile. Lost 2 camp Kettles, one axe, and one oar. The Major’s chronometer stopped the instant he went down, showing the time to [be] 8-26-30 12 A.M. While on the rocks bailing, the “Canonita” came down to us. They had lost 3 oars, but recovered 2 in the rapid, and broken a rowlock. Soon pulled out, ran a small rapid and stopped on right side among big rocks to dry out. Pulled out after dinner and ran 8 rapids in 7 miles. In pulling in to the head of a big rapid, near right, we got too far down and were drifting stern first. Just as Fred jumped with the line the boat careened and he landed in deep swift water. The Major jumped on to a large rock to catch him but he was too far out. I sprang for a rock near the boat and 6 or 8 feet from shore, missed my footing and bruised myself against the rock, giving me all I could do to make the shore, while the boat, with Fred clinging to the line was swept down past me but out of reach. She turned in a big wave a few rods below; Fred climbed in, he and Jack took their oars, ran the head of the rapid, near capsizing at a big rock, and pulled into an eddy safe. Major and self climbed the wall very quickly, and when up about a hundred feet saw them just coming on. Never was I more rejoiced than when I saw them safe. Let the “Canonita” down by line, on left side and made Camp No. 102 on the same side, where we found the “Dean” on a sandbar,
at the mouth of a narrow gulch. Driftwood in abundance, some of it 40 or 50 feet above the water. River still very high, bringing down immense quantity of driftwood, some logs a foot through. Lost another oar in last rapid. River near camp 75 yards wide. Walls 4000 feet. Current 7 or 8 miles, full of whirlpools and rapids. Did a very hard day's work. Granite rapidly coming down. Full of seams of quartz and Feldspar. Ran 12 rapids, the "Dean" 13, and made one line portage. Ran 8\(\frac{3}{4}\) miles. Camp 102 Left side at mouth of gulch.

**Wednesday, September 4th.** Let the boats down by line for \(\frac{3}{8}\) of a mile, on left side over large Granite boulders, to get past the worst of the rapid, then ran a little more than 4 miles, running 7 rapids, one \(\frac{3}{4}\) of a mile long, and made noon camp on left side on a sand bar. Ran the Granite down just above noon camp. Pulled out as soon as dinner was eaten and ran 9 miles, stopping once for pictures. River from 75 yards to 150 yards wide. Walls of dark sandstone at water, above that marble capped with limestone, the whole from 2300 to 4000 feet high. Top of cañon a mile and a half wide. Ran 14 rapids. One by one. Made Camp No. 103 on left side on a sand bar. Passed a few willows a mile above camp, the first since Bright Angel. Ran 14 miles. Twenty-three rapids. Let down by line once.

**Thursday, September 5th, 1872.** Started early. Just below camp landed at the head of a long rapid. Let down by line for \(\frac{1}{4}\) of a mile on left side, ran another rapid, and stopped for pictures, and made noon camp on left side. Ran 1\(\frac{3}{4}\) miles. In the afternoon ran 7 rapids in going 3 miles, when we ran the granite up again, and found a narrow, very swift river full of rapids. Came to one where we could get no good view. Worked 2 hours to get our boats around a sharp point, pulled across to left side and made a short, but heavy portage under the cliff wall [Specter Chasm?]. Andy got hurt at this portage. Ran the foot of this rapid, soon another big one where the river is not more than 25 yards wide and granite walls 300 feet vertical, and a little below made Camp No. 104 on left side. Half a mile above camp the granite runs under, and Trap, a very black rock, at river. Looking up stream into the narrow gorge through which the river comes it seemed like the opening to Dante's "Inferno." Let down by line once, made one portage, and ran 12 rapids. Distance 8\(\frac{1}{2}\) miles. Ran through granite 4\(\frac{3}{4}\) miles.

**Friday, September 6th, 1872.** Ran 1\(\frac{5}{8}\) miles and stopped on left side at head of a rapid with a fall of 15 feet in 50 yards. Let down by line from right side. Andy got hurt again. At head of rapid a small, clear stream came in on the right and another at foot of rapid. The last came down in a series of cascades. The three that I saw were from 15 to 30 feet high. Water clear and cold. Streams very small. Staid, taking pic-
tures until after 3 P.M. Then pulled out and ran 3 miles, passing 3 rapids and made Camp No. 105 on right side just below the mouth of a clear, cold stream, coming from the north. It is the prettiest stream and the coldest yet seen flowing into the Colorado. Fifteen feet wide and a foot deep, it flows from one ledge of rocks to another, not in falls, but miniature rapids. From Beaman's description this must be the creek that he and Riley visited coming up the river [following the north rim of the Grand Canyon] from Kanab Cañon, 15 miles below. Near camp width of river 75 yards. Current 7 miles. From river up 300 feet Trap rock very dark. Above that the marble. Some marble boulders on river. Some of them colored green by Serpentine, others red from the rocks above, while in places the marble wall is blue. Height of wall 2000 feet. One line portage. Ran 6 rapids. Distance 4½ miles.

Saturday, September 7th, 1872. Waited for pictures up the creek. Nothing to eat except bread and coffee. Started after dinner and ran rapid after rapid, none of them very bad for 4 miles, when we came to a small clear stream pouring out of the cliff into the river with a fall of about 175 feet [Deer Creek]. Stopped for pictures. This is the fall—Beaman has photographed and called "Buckskin Cascade." Ran into the granite 2½ miles below camp and found a narrow, swift river for a mile and a half. Ran this afternoon one of the worst rapids on the trip. Near sunset heard some one halloo on right bank. Pulled in and found Adair, Adams and Joe Hamblin with rations and mail at the mouth of lower Kanab Cañon. The water from the river had backed into the cañon, so ran our boats up 300 yards and made Camp No. 106 on right side of the Colorado and in Kanab Cañon. Ran 12 rapids. Distance 12¼ miles. Height of walls at camp 2000 feet, all limestone and marble. River narrow. Top of wall less than ¼ mile wide. Adair brought news of Indian

The reference is to Tapeats Creek in the scenic Tapeats amphitheater, named for a friendly Paiute.

As instructed by Powell, a pack train in charge of George Adair, Nathan Adams, and Joseph Hamblin reached the mouth of the Kanab September 4 with a supply of provisions for use on the anticipated boat traverse to the mouth of the Virgin River.

The difficulties and dangers of navigation at the time of high water doubtless account for the meager description of the spectacular features of Granite Gorge. Like most of his associates, Jones deals chiefly with rapids, whirlpools, tortuous currents, flooded sand bars, and the lack of landing places. The constant alertness needed to maneuver almost helpless row boats through swift water afforded little opportunity for determining directions and distances, measuring the height of canyon walls, or making geological observations. Maps of the U. S. Geological Survey made in 1923 show that 38 branch canyons enter the Colorado between the mouths of Tapeats and Kanab Creek and that the distance along the river from Lees Ferry to Kanab Creek is 163.5 miles in contrast with Jones's estimate—108 miles.
troubles in all directions. The northern Utes on the war path, and General Morrow with the troops after them. Nothing from Capt. Dodds. The Shivwits have had trouble at St. George, and gone back to the mountains, threatening vengeance on the whites. Miller and Whitman have vacated their ranches and taken their stock to Short Creek. Jacob Hamblin has started across the river to try and keep the Co-ho-ne-nee's from joining the Shivwits. Hamblin and Bishop Letwart [Stewart ?] both send word that it will be unsafe for us to go farther. From [Lees] Ferry river to Kanab Cañon is 108 miles. Rapids run 118. Line Portages 6. Portages 7. Making 131 rapids. All cañon.

Sunday, September 8th, 1872. Took observations for time and latitude and wrote some letters. Sun shone on camp 2 hours. The view at the mouth of Kanab Cañon is grand, but gloomy. The walls 2000 feet high and very narrow. Silence and solitude reign. Numerous signs of the visit of the miners last spring. Thousands of dollars were spent here to no purpose. This evening the Major told me that owing to the shattered condition of our boats and the high stage of the water that we would leave the river here. About 75 miles yet remain to be run, but we can reach the river in several places below and do our work on the land. So tomorrow morning we bid the Colorado good-bye and start for Kanab.

Monday, September 9th. Left Jack and Clem to make pictures as there were not horses enough to take all the things out.
Cached some of the things, bid the river and the boats good-bye and started up the cañon nearly north. Major and self walked. Made 8 miles and camped at the Fern Shower Bath. Trail very difficult to pass. Cañon narrow. Walls at camp 1800 feet. Dip nearly north.

**Tuesday, September 10th.** Cached some more things so as to give each one a riding horse. I rode a pack saddle, as also Fred and Andy. Fred ran the trail. Made 25 miles and camped at the Cedar Tree. Left the running water 3 miles above camp. Found water in pockets. At Cedar Tree 650 feet Shale capped by about the same amount of gray limestone. Cañon at camp ½ mile wide. Grass good. Thompson and Fred climbed out at noon camp. Twenty five miles.

**Wednesday, September 11th.** Thompson and Fred pushed on ahead of the train. Major and self took our blankets and 2 days rations, and went up Shinimos Cañon [Snake Gulch] 4 or 5 miles; returned to Kanab Cañon, traveled up that 5 or 6 miles, climbed out 100 feet, made 6 or 8 miles more and camped at a small pool of water. Rode the Kit mule. Made about 14 miles toward Kanab and some 25 miles all together, Major making a geological section. The past 2 nights cold.

**Thursday, September 12th.** Started early. Climbed out once. Followed the cañon until it ran out, then travelled in all directions reaching Kanab at 3 P.M., having rode 30 miles. Found that Thompson and Fred got in last night at 10 P.M. The pack train [got in] today, at noon. Camped at our commissary. Spent the rest of the day in reading letters, eating melons and resting. Saw “No-goots,” the chief of the Toquerville Pa-Utes, who is a friend to the whites and came to tell them about the Shivwits. Jacob Hamblin had returned. The boat at the mouth of the Paria gone. Beaman either left it across the river, or it has gone down stream. Jacob reports the Colorado as being 10 feet higher than ever before at this time of year. Two Shinimos Indians came in at night. They came over to trade, and can not get back.

**Friday, September 13th.** Spent the day in writing up records and eating melons. Fred’s 19th birthday. Mrs. Thompson made him a peach pie.

**Saturday, September 14th, 1872.** Fixed things up. Adams and Joe Hamblin started to the river for Jack and Clem. Took 10 horses. Fred and Thompson will ascertain the correct latitude

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National Museum, that of the “Canonita” to Clem Powell. A search at the mouth of the Kanab in 1875-76 yielded no trace of the boats except a hatch and Major Powell’s chair, which came into the possession of F. M. Bishop of Salt Lake City, but is now lost. Of the “Nellie Powell” more is known. Clem Powell reports that this boat, left at Lees Ferry, was given to Jacob Hamblin, and was used for a time as a supplementary ferry. A part of its hull is preserved at Grand Canyon National Park.
and longitude of Kanab, while the Major and self make a trip to the north.

Sunday, September 15th. Rested and ate melons.

Monday, September 16th. Hunted up the stock. In evening took 4 head and went up Kanab Cañon 21/2 miles and camped. Indian Bush with me. Day warm. Night cold.

Tuesday, September 17th. Back to Kanab. Major, with Frank & George, Pa-Ute Indians, and self went up the cañon 1 3/8 miles farther and camped. The Major is going to make a Geological Section, I to run Kanab Cañon and its branches.

Wednesday, September 18th. After climbing a while went on up the cañon 5 miles and made a noon camp at a small lake a hundred feet above the cañon on west side. The water flows into the cañon through a deep gulch. Just below, a small corn field, frost bitten. In afternoon tried to follow up the cañon but were obliged to leave it on account of quicksand, and go over the hills to the west for 2 or 3 miles, then into the cañon again. Left it near night and followed up another to find water. Made camp at dark at a small water pocket, in a narrow cañon with Limestone walls. Dip of the rocks north and as we were travelling nearly in that direction we ran under the red Triassic, also the White sandstone above that. Went up 500 feet. Made 17 miles.

Thursday, September 19th. Spent the forenoon in getting the Topography and Geology of the country. At camp 160 feet of Jurassic limestone, fossiliferous. The top of this a plateau [Skutumpah Terrace] stretching for many miles, rising to the north into the Wasatch Mountains. These are the Schumpa Mountains [Paunsagunt Plateau]. Making our Indians of service in getting wood and water, and taking care of the stock. Just above camp someone had begun a small log house. A few miles to the northeast is the settlement of Upper Kanab. Night very cold. Started after dinner. Followed the cañon until it became a small valley, then crossed over to the east 2 miles into the Valley of Upper Kanab Cañon. The rest followed up the valley

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180 After the latitude of Kanab had been established by Polaris observations, its longitude with reference to the previously established position of Salt Lake City was determined by telegraph. For this purpose the wires of the Deseret Telegraph Company were made available by its superintendent, A. Milton Musser. To make possible rapid communication between the isolated southern Utah settlements and to summon assistance when urgently needed, the telegraph line from Salt Lake City was extended from Toquerville through Virgin City and Rockville, to Pipe Spring, December 16, 1871, and to Kanab in 1872. It is said to have been the first telegraph line in Arizona. The establishment of base lines for longitude and latitude at Kanab is described by Powell in a letter to Joseph Henry, Secretary of the Smithsonian Institution, April 30, 1874.

181 LeGrande Heaton, of Orderville, Utah, reports that a lake in a gorge locally known as Big Lake Canyon has been "all washed out."
one mile and camped near a small spring. I went down the canyon to its junction with the one we came up last night, for the purpose of getting its Topography. Back to camp before sunset. Saw a number of cattle belonging to the Upper Kanab settlement. Grass good. Camp in sight of the Pink Cliffs. From one camp to the other 3 miles. Found yesterday an outflow of Basalt from the north. The Major spent this afternoon examining it.

Friday, September 20th. "Judge" started at daylight for the horses who had "pa-gwi-naed." Did not get in until after 8 o'clock. I had saved him a nice, warm breakfast, for which he seemed pleased and called me a "wino Americat." Went up the valley of Kanab Creek, [which] here is a mile wide and covered with luxuriant grass with high rolling cedar hills on the east side, except on the left the Basalt continues for 3 miles, then we left it very abruptly. Course of the valley nearly north. Travelled 7½ miles and camped about 11 A.M. in a grove of cedar, in sight of the settlement of Upper Kanab, and 2 miles south of it.

Followed the wagon road from Kanab to Salt Lake City via of Johnson, from near last night's camp. After dinner the Major went to the east to examine the hills. Frank went out hunting. Judge and I went up to the settlement, to look around and get the Topography of the country. Found 3 small log houses. The St. George cooperative cheese factory is located here. They have 80 cows, and a steam vat, and screw presses, for manufacturing cheese. Found 2 young men, the sole occupants. Bought some butter and cheese. The first very good, the last "koch wino." They told me that another ranch was located 1½ miles farther up the valley, and another 3 miles west over the mountains in a small valley. The valley of Kanab Creek turns nearly east here and continues 5 or 6 miles up to the Pink Cliffs. Major found 800 feet of gray sandstone with numerous fossils. Supposed to be Cretaceous. Frank killed 2 fine rabbits.

Saturday, September 21st. Went up the valley to the ranch. The wagon road turns here to the northwest over the mountains, to head waters of the Sevier. Found that we were within

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1 From Corral Knoll, a volcanic crater at the mouth of Sink Creek, a lava stream extends several miles down Kanab Canyon.
2 First established as headquarters for prosperous cattle ranches (1870-1872) Upper Kanab became a settlement of about 100 people (1890-1900). To provide "better homes for our children" most of the residents moved a few miles down stream and founded the village of Alton (1908).
3 In 1872 the main road from Kanab to the settlements in central and northern Utah passed through Johnson and Upper Kanab, over the dividing ridge between Kanab and the Sevier drainage basins and along the South Fork of the Sevier River. After a road had been constructed up the Parunuweap Valley (Long Valley) across the eastern edge of the Markagunt Plateau the road through Upper Kanab was abandoned. The relocated road—highway U.S. 89—crosses the Virgin-Sevier divide at Gravel Pass, and from it a branch extends to Alton.
4 miles of the upper settlement in Long Valley at camp Thursday night. Went on up the valley to the east past Rounds [Roundy] Ranche, clear to the foot of the Pink Cliffs, a line of bright pink limestone, a spur of the Wasatch Mountains running nearly east and west, to the head of Potato Valley, where we were in June and July; then turning north into the Wasatch Valley from ½ mile to 1½ miles wide. Grass good. A small stream in the center fed by springs. Sorrel Kit stuck in the mud twice. Made camp near foot of Pink Cliffs at upper end of the valley under 2 Fir trees. Grass good. A very small stream of water fed by springs near. A great many small birch bushes. In afternoon the Indians went hunting. Major went up on to the Pink Cliffs. I climbed a sandstone mountain near about 700 feet high. Pink Cliffs 1000 feet. We are more than 3000 feet above Kanab. Put some beans on to cook in the middle of the afternoon. Kept them boiling until bed time without making any impression. Made 8 miles. Barometer [Aneroid] 8710 feet.

**Sunday, September 22nd.** The horses left us again last night. Frank looked until breakfast, then Judge started out and soon brought them in. Boiled the beans again until noon. Climbed a mountain near camp. Night very cold.

**Monday, September 23rd.** While the Major climbed the hills in one direction, I went north up a small valley and climbed the Pink Cliffs, to get the Topography. In afternoon went down to the ranch and camped in the house. Very cold. Ice ¼ inch. Barometer 7790 feet.

**Tuesday, September 24th.** Major and self spent the day among the hills to the north and west of the ranch. Major found a fault in the geology where the Pink has dropped 2700 feet [Sevier fault]. Stood on the summit of the divide between the waters of the Kanab, the Sevier and the Rio Virgen. The divide is very narrow. A long ridge runs to the west gradually descending until it meets the ridges an elevated plateau [Markagunt Plateau], from that direction. Over this the wagon roads pass. Another ridge runs south, between Kanab and Virgin, rising. Between these streams is the outflow of Basalt run down Kanab Cañon. Followed down the ridge to the west into the head of Long Valley. Drank out of the spring at the head of the Rio Virgen [Gravel Spring]. On down the valley to Williams Ranche, [and from] there across the hills to camp. Found a good many fossils in the Cretaceous sandstone. Night not so cold.

**Wednesday, September 25th.** Spent the day among the hills to the south and west. Found the crater of the outflow

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158 In high altitudes it is necessary, to make any impression on beans, to cook them under pressure—usually by covering them with a tight lid and then placing a heavy weight on the lid.
Thursday, September 26th. Spent the forenoon and until 3 P.M. among the hills, then packed up and followed the wagon road to the northwest for 2 1/2 miles, then down a small valley a mile and a half farther to Williams Ranche [mouth of McDonald Creek?], near the head of Long Valley, then down that nearly south 1 1/2 miles, and camped at the place where the Basalt first comes into the valley from the east [at Lava Narrows]. Rain at night. Made 6 miles. Barometer—7700 ft.

Friday, September 27th, 1872. Started early. Just below camp is a steep descent of more than a thousand feet. The creek canyons in the Basalt Valley usually about 1/4 of a mile wide. A great many small springs come out of the hills. From camp to Young's mill is 3 miles. Stopped for dinner at John R. Young's. Found his family, consisting of 2 wives and children too numerous to count, in a shanty built partly of brush. Opposite the [saw] mill on the west side of the creek are signs of coal and the remains of a pine log turned to coal. Major secured a specimen. Joseph W. Young, the owner of the mill and President of the Long Valley Settlements, told us that no one had ever been down the canyon of the Virgin from the Elephant hills to Shirensburg [Shunesburg] a distance of 15 or 20 miles, and proposed that if we would wait one day he would go with us. Decided to do so. In afternoon went down the valley to Glen Dale, a settlement of 30 families. Stopped at Young's. He has one wife here, another in St. George. Valley averages 1/2 mile wide. From the mill to Glen Dale 4 1/8 miles. Distance all day 7 1/2 miles. Aneroid Barometer at morning camp, 7700 feet. At Mill—7210 feet. At Glen Dale 6800 feet.

Saturday, September 28th. Young got a man to drive this [his?] team via of Pipe Springs and meet us at the Sheep Trough [in Little Creek Valley southwest of Smithsonian Butte]. Went down to Mt. Carmel, another settlement 6 1/4 miles southwest of Glen Dale. About the size of the Upper settlement. These
people formerly lived on the Muddy and Virgin rivers supposing they were in Utah, but finding themselves in Nevada—like good Mormons—they returned to the fold. Bishop Leithead, a Scotchman, presides at Glen Dale, and Bishop Starks, a Danishman at Mt. Carmel. Dinner at Esplin's—Young secured the services of 2 young men to take our animals around by a trail, where we entered the cañon. Went down the river to the Elephant Hill where the trail leaves and goes by Short Creek. From Mt. Carmel to camp is 8½ miles. Kanab wagon road leaves the valley of the Virgin [Parunuweap] 3½ miles below Mt. Carmel. General course of the stream southwest. Most of the way valley averages ½ mile wide. Hills of red sandstone from 400 to 600 feet high. Our Indians wanted to go home, so piquaed to Kanab. Made 14½ miles. Barometer—5860 feet.

Sunday, September 29th. Sent our stock out by the trail, shouldered a blanket apiece, divided 3 days rations among our packs, took an axe and lasso and started down the cañon. Others had been down 3 or 4 miles. Found but little difficulty until noon, then tiring of alternately climbing hills and wading, pulled off our shoes, rolled our pants above our knees and took to the water. Made in the forenoon 5¾ miles. River runs through red hills. Usually on one side a little cove covered thick with brush and briers. Some timber. Soon after starting in P.M. the river cañoned in the red sandstone, leaving no bank. In many places the stream is not more than 10 to 15 feet wide, from 2 to 4 feet deep, full of quicksand; the cañon walls 1000 feet high and river very crooked. Near night we found a little cove on left side about 3 rods long and 20 feet wide, thickly covered with Box Elder and a few oak trees. Here we made camp, built a roaring fire, hung our clothes around it to dry and prepared to pass as comfortable a night as possible. Barometer at noon camp—5530 feet. Injured so it could not work in afternoon. Made in P.M. 5 miles. All day 10½ [miles].

Monday, September 30th. Started at 7 A.M. Our first

(Deseret Evening News, December 11, 1871): "In die valley (Long Valley—the site of Mount Carmel and Glendale) are mostly those who vacated the Muddy (River) settlements to get away from the vexatious taxation of the State of Nevada, and who left behind them the labor and improvements of years."

"Before the trail over the drifting sands between Mount Carmel and Kanab had been made passable for wagons (about 1915) and before the highway through the Pine Creek tunnel had connected Springdale and Mount Carmel (1930), the main road from the upper Parunuweap Valley (Long Valley) to Short Creek, Pipe Spring, Kanab, and other settlements south of the Vermillion Cliffs and on by way of Sheep Troughs Spring to Washington and St. George led through the Block Mesas, past Elephant Butte.

This pioneer traverse of the formidable Parunuweap Canyon—one of the few that have been made—is described also by Major Powell, who dates it erroneously as September, 1870.
plunge into the water was very cold, but we soon became accustomed to it and jogged merrily onward. Most of the way the cañon was very narrow and crooked. Walls from 1000 to 1200 feet. Two miles from camp found a fall of about 10 feet. Clambering down the rocks beside this we were soon below and trudging ahead. The cañon in many places was so narrow and crooked that it was impossible to look to the top at one glance. Many little springs come out of the rocks along the walls and help to swell the volume of water. Pushing ahead at 4 miles from camp we found a large fall. The cañon from being a few feet wide suddenly widened to ¼ of a mile. The rocks from the top have tumbled into the stream forming a fall, or rather a series of falls. The water pours over these, falling about 150 feet in 400 feet. The greatest abrupt fall is about 30 feet. We crawled along the side helping each other, sliding down the huge boulders until we came to the foot. From here the view was one of the finest I ever saw. Travelling from here was more pleasant, but still no rapid progress could be made. Soon came to a stock trail and shortly afterward to where men had been cutting timber. Stopped at the end of 6½ miles from camp to eat a little dinner. Ahead again. According to Mr. Young’s calculation we should be near Shirensburg, the first settlement, and he was almost constantly saying the settlement must be just around that point. So we trudged on until near 2 P.M., when we met a team driven by a Mr. Stevens, who kindly turned about and took us to the settlement, a dozen houses, where we regaled ourselves with grapes, peaches and melons, until another team was ready to take us on to Rockville, 4 miles farther. Met our stock near there. Supper at Bishop Smith’s; mounted at 5 P.M. and reached the Sheep Troughs, 10 miles away, on the road from Washington to Kanab at 9 P.M. and found Young’s team all right. From camp to Shirensburg 10½ miles. From Shirensburg to Rockville 4 miles. To Grafton, where we left the river, 2 miles. To the Sheep Troughs 8 miles. Total distance 16½ miles.

Tuesday, October 1st, 1872. To Short Creek for dinner, and Pipe Spring for camp, getting in after dark. Thirty-four miles.

Wednesday, October 2nd. To Kanab, getting in at 3 P.M.

Shunesburg or Shonesburg at the mouth of Parunuweap Canyon was settled in 1861; Rockville the same year, and Grafton in 1859. At the time of Jones’s visit these villages had a combined population of about 300—irrigation farmers and stockmen. They were reached by a rough wagon road which led down the Virgin River Valley to Virgin and over the Hurricane Cliffs to Toquerville, founded in 1858. From Rockville a branch road extended along the river through Springdale into Zion Canyon and another led from Grafton up the canyon walls to Big Plains, where it joined the St. George—Pipe Spring—Kanab road.
Found every one well. Jack and Clem had got in from the
river all right. Andy got in from Beaver Monday. Fred and
Clem had traded "Yager" and "Dick" to the Navajos for blankets.

Thursday, October 3rd. Began plotting [sic] up the trail we
have followed, and the surrounding country. Fred has taken
a series of hourly barometrical observations for 8 days.

Friday, October 4th, 1872. The Photographers took some
views of the Pa-Ute camp, and some portraits.\textsuperscript{160}

Saturday, October 5th. Major received a dispatch from an
Indian Agent at St. George and started for there in afternoon
with Frank. Thompson has completed observations sufficient
to establish the latitude and longitude of Kanab.

Sunday, October 6th. All took a rest. Jack and Clem
went to Johnson.

Monday, October 7th. Finished my sketch. Making pre­
parations for another trip. Jack and Andy and Clem getting
ready for a trip to the Shinimos towns [Hopi Villages, Arizona].
Fred laid up with a bad sore on his right ankle.

Tuesday, October 8th. The most important event, the ar­
rival of the mail.

Wednesday, October 9th. The party, including Jacob
Hamblin, left for the Moqui's towns.\textsuperscript{151} Took a wagon as far
as the mouth of the Paria. Took 10 horses and mules. At 4
P.M. with Joe Hamblin started on a trip to the headwaters of
the Rio Virgen, to be gone 2 weeks or more. Rode Major—Joe
rode a sorrel mule, and we packed Muggins. Went up Kanab
Cañon to the lakes [Three Lakes]—7 miles. Thompson ex­
pects to start tomorrow for House Rock, and to follow down
the Colorado across the Buckskin Mountains. Barometer—
24.876 inches.

Thursday, October 10th. Spent the forenoon in getting
the Topography of Cave Lake Cañon, and others. In afternoon
by the trail to Mt. Carmel. Fifteen miles. Camp at Stevens.
Bar. "camp" 24.998.

Friday, October 11th. Up the valley of the Virgin to
Young's Mill. Ten miles. Met Lieutenant Wheeler and party
at Glen Dale.\textsuperscript{182} Barometer 24.186.

\textsuperscript{160}A large number of photographs of Paiutes taken by Hillers in 1872
are on file at the Smithsonian Institution, Washington.

\textsuperscript{151}The events of this excursion to the Hopi villages are recorded in the
lively account by Clem Powell (see his diary entries for October 16—November
7, 1872, as well as his letter to the Chicago Tribune, pp. 479-490 of this
quarterly and in the famous photographs taken by Hillers. Both have high his­
toric value.

\textsuperscript{182}In 1872 the work of the military-scientific survey under the direction of
Lt. George M. Wheeler supplemented and in places overlapped that of the
Powell Survey. At times the two exploring parties occupied the same camp
sites.
Saturday, October 12th, 1872. Up the west branch of the Virgin [Dairy Creek]. Nooned 6½ miles after starting, at the upper spring [Stump Spring]. On in the afternoon to the head of the cañon, climbed up the divide and down a small valley [branch of Swans Creek] that runs into the Sevier. Camped at a small spring. In P.M. 5¾ miles. All day 12¾ miles. Night cold. Barometer 22.832.

Sunday, October 13th. Across southwest, back on to the divide and along that. Joe sick, so left the pack at noon and followed a small stream until I found that it ran into the Sevier. Back and along the Divide to the west, and down to the head of the Muddy and camped at 3 beautiful Springs, surrounded by rough hills. Made 13½ miles. Barometer 22.826 inches.

Monday, October 14th. Down stream. General direction southeast. Struck the same trail followed yesterday, and is supposed to have been made by a band of Navajos who recently came from Cedar to Mt. Carmel. Very difficult travelling for 3 or 4 miles. Found a small ranche at 11 A.M. No whites have ever been to the head of this stream, to my knowledge. Camped just below the ranche on account of rain. Made 6 miles. Bar. 24 inches.

Tuesday, October 15th. Joe's mule ran away during the night, so put his saddle on the Jack. Six miles after starting met 3 men leading the missing animal. They belonged in Cedar and inquired very anxiously about the Indian trail, intending to follow that. On to Mt. Carmel. The Muddy flows into the Virgin ½ mile below the settlement. Camped at Maxwell's at 1:30 P.M. Then I rode to Glen Dale, 6¾ miles. Staid at J. W. Young's. Lost this book on the road. Made with the packs 8¾ miles. Barometer 24.856 inches.

Wednesday, October 16th. In afternoon went up the Muddy 2½ miles, then turned to the left, climbed the low hills, crossed a small plateau; came to a small valley where Kew has a summer ranche, and is called the Big Meadows; up this valley [Meadow Brook] to the north a mile, then up another ½ mile and camped. Hills low, covered with cedars. Our object was to reach the head waters of the Spring Dale branch of the Virgin, either cross or go around the stream, and come out at the settlements on the Virgin below the cañons. Probably no white man had ever tried this before. Made 8¼ miles—Bar. 23.794.

Rubes Spring and Kellers Springs, which once supplied water for considerable areas of meadow lands, have been destroyed by erosion along Muddy Creek.

In the light of present knowledge of Zion Canyon and its tributaries the complete failure of Jones's plans to traverse by pack train the country between the head of Meadow Brook and Rockville occasions no surprise. The region presents an amazing congeries of deep, close-spaced, vertically walled, and sharply meandering canyons, impossible to cross except by "hand hold"
Thursday, October 17th, 1872. Went up a small valley and climbed on to the plateau. Went 2 or 3 miles to the west, and found ourselves on the edge of a long line of vertical cliffs that come from the Pink Cliffs to the northeast, and continue to the Virgin River. To the west we could see the Spring Dale branch more than 1500 feet below us. The east branch of this rises a little west of north of where we stood. The west branch 25 or 30 miles northwest, and near Cone Mountain [Black Mountain—a volcanic peak], that lifts its head far above its neighbors. After trying a long time to find the way down the cliffs sent Joe back with the pack, and spent the rest of the day in looking over the country, and taking bearings. Followed the ridge a long way to the southwest. Then turned to [the] east along another. A small stream rises under this ledge, and flows in general southerly direction into the Long Valley branch of the Virgin. Called Clear Creek. Saw its mouth far down the cañon of the Virgin in September. The country to the west was very rough, and if we should succeed in getting down the cliff, the prospect of travelling was not flattering, so decided to strike to the north around the worst cañons, then go west and northwest, and try to reach Cone Mt. Back to where Joe had made camp. Made only 2½ miles. Barometer 23.432 inches.

Friday, October 18th, 1872. Traveled in northwest direction over rough hills and into deep cañons. Found a Spring at the head of a small stream at dark and camped. Made 11½ miles. Barometer 23.924.

Saturday, October 19th. Followed the cañon to the west 2 miles and came to a clear mountain stream flowing southwest. Started up that to the northeast until it branched, one coming from the northwest, the one we were following coming from the Pink Cliffs 5 or 6 miles away. Concluded that this was the east branch seen on Thursday, and as the other came from the direction we wished to go, followed that. Went to its source, climbed a rough Basalt ledge and found ourselves on the upper plateau [Kolob Terrace] under the Pink Cliffs, and 10 miles or so southeast of Cone Mt. Travelled till dark over a rough country. Obliged to go northeast to get around the cañons, and

**Sunday, October 20th.** Travelled nearly west over rough hills until 1 P.M. Found a small spring at the east foot of Cone Mountain and camped. In afternoon I climbed the mountain for observations and sent Joe to look for a ranche, as we saw cattle in the valleys to the south. Found the mountain to be a Basaltic cone pushed up out of a long ridge that runs from the Pink Cliffs 4 or 5 miles east to a line of sharp cliffs 6 or 7 miles west. This line runs south to the Virgin near Toquerville. Mountain about 1000 feet above ridge. To the South lay the country drained by the Virgin and its branches. The ridge is the divide between the waters that flow south into the Colorado and those that flow north in to the interior. Coal Creek rises at the north foot of the mountain. One branch of the Virgin at the south foot. Saw from the mountain a fire to the west, and concluded it must come from a ranche. The Pink Cliffs to the east form a large plateau, the western line being just east of the mountain, the eastern just west of Upper Kanab. Called by the Indians Mar-Ka-gunt—the mountain where the flowers are. East of this is another similar one with its eastern line at the head of the Paria, called Powns-a-gunt [Paunsagunt]—the mountain where the flowers are. Table Mountain east of this and west of Potato Valley forms another, called—[Aquarius]. Back to camp at sunset. Joe came at dark, having found plenty of cattle, but no ranche. Made 7 1/2 miles. Barometer 20.952. On Mountain 3 P.M.—20.544. Very cold.

**Monday, October 21st.** Went to the west 5 or 6 miles over a rough country and found a single log house, the headquarters of the Cedar Cooperative Ranche. Camped 2 miles South. Made 6 3/4 miles. Barometer—21.378 inches.

**Tuesday, October 22nd.** Went South 4 or 5 miles to the Kanarra herd house. No one at home. Still South 2 miles over a plateau rising fast, no timber, until suddenly we came to a sharp line of cliffs down which we could look 1500 feet. A stream rose out of the foot of the cliff and ran nearly south into a deep canyon far below us. Not knowing whether this was Colob [Kolob] or the Le Virken [La Verkin], we went down the only pass for miles. Found a great many cattle, and finally

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165 The hurried survey by Jones of the region south of the Pink Cliffs and between the upper Virgin River and the Hurricane Cliffs near Kanarra (October 17-24, 1872) recorded for the first time the remarkable features of the Kolob Terrace, stretches of relatively flat land into which are incised many closely spaced deep canyons and above which rise volcanic cones and sheets of basaltic lava. In the seventies the abundant palatable herbage attracted cattlemen, who established summer homes, tended their stock, and made butter and cheese for market. Though its forage has been seriously depleted, the Kolob still is an important grazing district.
met Mr. Berry, the herd master, who told us that this was the latter stream, that these were Kanarra Stock, that the Colob ranche was to the southeast—5 or 6 miles, and that we could not get down the Le Virken. So turned southeast, climbed the mountains, went through a low pass and made camp at 4:45 P.M. on the Colob Creek. Distance 13½ miles. Barometer 22.404 inches. Weather very cold. Some snow in afternoon.

**Wednesday, October 23rd.** Went South to the Colob herd house, 2 miles. No one at home. So kept on south and soon struck a rough wagon road, which we followed, coming to Brewers Mill, a half dozen houses, at 4 P.M. Got some peaches and apples. Followed down North Creek, southwest. Passed Mountain Dell 2 miles down. Grapes not all gone. Soon after camped. Distance 20½ miles. Barometer 26.424 inches.

**Thursday, October 24th.** On down North reek, southwest to Virgin City 6 miles, then turned up the Virgin, east. Past Grafton 7 miles above Virgin City. At Rockville at 2 P.M. Hard rain. Stopped with Bishop Smith. Distance 15 miles. Barometer 26.354 inches.

**Friday, October 25th.** On up the Virgin to Northrup 2 miles, then up the Spring Dale branch—Past Spring Dale 1¾ miles up stream into a narrow cañon a mile above. Through that 2 miles to a small valley, where a few industrious Mormons farm. This valley is 3 miles long and averages ¾ of a mile wide. Beyond this the valley shut in close. Vertical, and from 1000 to 1500 feet high. Followed up this 3¼ miles. Finding no grass and not wishing to try to go clear through the cañon, turned around, to the upper field in Zion Valley and camped. Made 15¾ miles—ahead 13 miles up the Spring Dale branch, and 3¼ back. Travelled altogether 18¼ miles. Had seen all of the country above the cañon, and by this strip connected the work, so was satisfied to turn Kanab-ward. Barometer 25.678 inches.

**Saturday, October 26th.** Down the river to Northrup, then up the other branch east to Shirensburg, where, taking in a cargo

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166 For many years after its founding (1859) the picturesque hamlet of Mountain Dell was the home of five families. Since 1900 it has been unoccupied.

167 Northrup, at the junction of the Parunuweap and Virgin rivers, was settled in 1861 by four families, who at the time of Jones's visit were cultivating about 50 acres of "river bottom land." The site is now abandoned. Springdale received its first families in 1862, and for the following 30 years remained a small "settlement at the end of a long road." Since the establishment of Zion National Park (1919) and the construction of the Pine Creek tunnel (1930) the village has experienced a rapid growth.

168 This description of Zion Canyon is remarkable; a brief, matter-of-fact record of the amazing scenic features which aroused the enthusiastic interest of Jones's co-workers: Powell, Gilbert, Dutton, Holmes, and Hillers.
of peaches and melons, went up Shiren's Creek southeast, to its source 3 miles, and camped in a very narrow cañon. Distance 15 miles. Bar.—25.448 inches.

**Sunday, October 27th.** Climbed the mountain to the east over a rough trail,\textsuperscript{10} many places smooth rock, for 4 or 5 miles to the top of the plateau, then a little south of east all day over a rough plateau. Camped at the head of Cottonwood Cañon at 7 P.M. in a cave. Day very cold. Snow most of the afternoon. Mountains north, white—Made 23\textsuperscript{3/8} miles. Bar.—24.228 inches.

**Monday, October 28th.** Very cold. Ice formed last night. Over the plateau 2 or 3 miles, then down Finney’s Cañon [Trail Canyon?] to Kanab Cañon 3 miles north of the town, and in at 11 A.M. Distance 8 miles. Found Mr. Thompson had got in last night. The Major was absent on the Paria. Spent the rest of the day in reading the news, and getting clean. Pitched a tent and put up a stove. Night very cold. Barometer 25 inches. Found a party of Wheeler’s men in camp near.

**Tuesday, October 29th.** Began work on my Sketch. Fred, mapping. Mail day—the most welcome of the week. Very cold.

**Wednesday, October 30th.** Some of the Santa Clara Pá- Utes have stolen the horses of a small party of Navajo’s camped here, and while one has gone in pursuit the rest remain anxiously waiting. Not so cold.

**Thursday, October 31st.** Major came in at night. Warmer.

**Friday, November 1st.** Finished sketch, and all hands got ready to start for a trip to Mt. Trumbull, St. George, &c., our last in this country.\textsuperscript{100}

**Saturday, November 2nd.** Hunted for the Sam mule until noon. Started about 3 P.M. Took a light wagon with 4 mules. Fifteen animals. Frank Hamblin, Adams, Major, Thompson, Fred and self—Indians Frank and George. Made 7 miles to

\textsuperscript{10}This famous Wriggle Trail that led from Shunesburg up almost perpendicular cliffs was constructed to reach the grazing lands on the Moccasin Terrace and to provide a short-cut route for pack trains and mail from villages in the Virgin River Valley to Short Creek, Pipe Spring, and Kanab. It is nowadays rarely used.

\textsuperscript{100}During November, 1872, Jones and his associates completed the survey of the Uinkaret and Shivwits plateaus—a region of large volcanoes, innumerable cinder cones, and lava flows—and established the relation of the peaks, mesas, and broad flat surfaces to the Hurricane and Grand Wash faults which extend southward across the Colorado. The resulting map, published by the U. S. Geological Survey as the Mount Trumbull sheet, is a geographic contribution of high value; it serves as the base on which later scientific studies are recorded. Likewise, the geologic descriptions have proven to be generally accurate. The most prominent volcanic masses on the Uinkaret Plateau were named for Lyman Trumbull and John A. Logan, senators from Illinois—the home state of 9 members of the Powell party. Mount Ellen was named for Ellen Powell Thompson, the wife of A. H. Thompson, and Mount Emma for Emma Dean Powell, the wife of Major Powell.
small spring on the lower line of cliffs toward Pipe Spring. In­
dian Wa-to-its went to Shivwit Mountains.

**Sunday, November 3rd.** I went back to Kanab for things
forgotten; then to Pipe Spring and camp.

**Monday, November 4th.** Made about 20 miles. No water
in the wild band pocket, so drove to the west, within 3 miles of
a Spring in a narrow cañon. Took the stock to water, and the
natives carried water to use. Spring in lower line of cliffs.
Rain most all night.

**Tuesday, November 5th.** Drove to water pool east of Mt.
Trumbull. About 30 miles. The range of Uing-karet [Uinkaret]
Mountains rises out of a large Basalt plateau that extends from
the Hurricane Ridge in the west, to near Kanab Cañon east—
Some 25 miles. From north to south about 20 miles to the Colo­
rado. Many cones on the plateau, former craters. The highest
mountain, "Trumbull," is a long sharp ridge from a little north of
west, 3 miles long. Many small cones, the vents of former vol­
canos, rise out of the plateau. A valley heads a few miles north­
east of camp and rises in general southerly direction to the Colo­
rado, 10 miles distant. This is the same down which Captain
Dodds and self went last Spring. Barometer—24.954 inches.

**Wednesday, November 6th.** Major, Thompson & Fred,
went out among the hills. I took barometrical observations. In­
dian Frank went to the camp of the Uing Karets, and their
Chief came to our camp.

**Thursday, November 7th.** Major & Thompson climbed Mt.
Trumbull. Fred made a sketch of a volcano cone near camp.
Frank Hamblin hunted a way for the wagon to reach the Lava
Spring. I went to the farther one of a long line of cones that
rise out of the Basalt Plateau, and continue for 8 or 10 miles
south to measure their height and ascertain their position. They
are from 200 to 700 feet above the plateau. Many contain old
craters and are covered with cinders. Climbing 5 Rods hard.
In camp at 7:30 P.M.

**Friday, November 8th.** Thompson climbed Mt. Trumbull.
Major, Fred and self spent the day among the old volcanic cones
on the east side of the valley. They are usually from 200 to
700 feet above the plateau, of conical form, composed of Basalt,
much weathered, resting on thin Basalt beds; that on the Car­oniferous limestone, filled with fossils. The Basalt of the cones
contain much iron, and the rocks are stained a dark red. Mostly
very small and present the appearance of cinders. The Indian
name for these cones is Oo-na-ga-set-sits. In camp at 7 P.M.

**Saturday, November 9th, 1872.** Major and Fred spent the
day among the Oo-na-ga-ri-sits. Thompson went down the
valley east of Mt. Trumbull to the river. Hamblin, Adams and
self went around to the west of Mt. Trumbull, with the packs
& wagon, into a valley between Logan and Trumbull, and to the Lava Spring. A camp of Shivwits near and the Uling-karetas 2 miles away. Barometer 23.618 inches. Night very cold. Indians all around.

Sunday, November 10th. The Indians came in early with seeds, yant, baskets, &c., to trade. Thermometer at 7 A.M. 20° above zero. In afternoon Major, Thompson and self went around the west end of the Lava flow, to where there had been a water pocket; but all gone. Some rude fortifications have been made, evidently for the purpose of lying in wait for game. A trail led over the Lava bed to another water pocket and more shelters. The dirt has blown in among the Lava and vegetation taken root. In some places pine trees have grown to 2½ feet in diameter, fallen down and decayed since the outflow. Climbed the cone, the ancient crater, found it to be about 300 feet high, and longest from north to south. The flow of Lava is on both sides of the crater; is about 4 miles long, from northwest to southeast, and from a few rods to ¾ of a mile in width. Secured some specimens. Night very cold.

Monday, November 11th. Frank (Indian) started for Kanab. Major and Thompson went on to Mt. Logan. Fred went over to the Lava cones east of camp. I on to those northeast. Near camp the flow of Lava is very narrow. That below or east looks much more recent than that west. Climbed and measured 4 cones.

Tuesday, November 12th. This morning the party separated. Hamblin, with the wagon, went to St. George, some 75 miles distant, to get rations, and is to meet at the end of 5 days at a water pocket 15 miles from here. Thompson and Adams with 2 Indians are to start tomorrow down the river as far as Grand Wash, and up that to St. George. Expect to be in Kanab in 8 or 9 days. Major, Fred, and I went to the water pocket near the river, at foot of the valley. Had our things packed down by 4 Indians. A warm camp. From Lava Spring to Water Pocket, 9 miles a little east of south.

Wednesday, November 13th. Spent the day in climbing and sketching. Fred made a fine sketch of the flow of Lava into the river, the best he has ever made. Barometer 25.792 inches.

Thursday, November 14th. Fred made a panoramic view of the valley and cones—then to camp at Lava Spring. Indians packed our things again. Major and self went among the cones to the west until 3 P.M., when we separated. I climbed several cone mountains to get their altitude and position on the last at sunset. Started for camp about 10 miles away, in straight line over the mountains. Travelled until 8 P.M., when "Gray Jude" gave out, so camped, built a fire and slept as best I could without supper or water, and one saddle blanket. The Hurricane Ridge
runs just west of the line of mountains that run south from Mt. Logan, and divides the Uing-karet Plateau from the Shivwit Plateau. Mt. Logan is nearly south from Mt. Trumbull 5 or 6 miles distant, and is separated from it by a valley covered with large pines. In this valley is the latest flow of Lava. South of Mt. Logan are 2 high volcanic cones named Mt. Ellen and Mt. Emma. A great many smaller cones, unnamed. On the Shivwit Plateau is a high mountain of about the size and shape of Trumbull, named Mt. Dellenbaugh. Farther to the west on the same plateau is another high mountain which the Major told me today we will call "Mt. Jones." Both are evidently extinct volcanoes. Rode hard all day. Probably 25 or 30 miles, over Basalt.

Friday, November 15th, 1872. Found Jude about 2 miles away. It was difficult to track over the Basalt so did not get started until 10 A.M. Horse played out. Walked most of the way for 5 or 6 miles. Got into camp at noon. Found the Major cooking beans. Fred away among the hills. Ate a hearty meal of beans, meat and coffee, the first for 36 hours. In camp all the afternoon. Wind very high.

Saturday, November 16th. Four Indians packed our things except blankets, and we started for a water pocket on the north edge of the Basalt plateau. The Major followed the wagon track. Fred and I struck over the hills a little west of north. Found an old trail and followed it until too dark to see, and had determined to camp when we heard the natives. Found that we were near the water pocket, which is in a Basalt cañon. Ice frozen 3 inches thick. Turned our stock out without drink. Succeeded in getting a little water for ourselves. Very poor. I built a fire on the hill and kept it up until 11 P.M. to guide the Major to camp, but he did not come. Supper of meat. A rabbit. The Indians had killed a wild cat, and ate that.

Sunday, November 17th. The Major came in shortly after sunrise. He had seen the light and got near us, but could not find camp. Got water enough for the stock and left the ice. Ate the last of our flour and meat. Took our blankets, a little coffee, and a can of oysters we had left and started across the desert, intending to ride to St. George, 50 miles away, if we did not meet Hamblin. Met him about 10 miles out, at 2 P.M. Came back to the north side of the Basalt plateau within 2 miles of the water pocket, and camped. Took the mules that Hamblin had been driving and that had been more than 24 hours without water, to the pocket, and got them one bucket-full apiece. Turned our stock out without water. We had cached most of our things and the Indians staid at the pocket to wait our return. Found that they had killed no game, and so had to feed them. Hamblin brought news of the re-election of Grant, and the burning of
Boston. Had worn out both shoes and moccasins and found it rough travelling over the rocks.

**Monday, November 18th.** Spent until noon in getting the stock to the pool and thawing ice for them. Breakfast at 1:30 P.M. Paid the Indians for their work and let them go. Fred and Major took the loose stock straight to the Wa-noo-pits Peka-va. I went around to pilot the wagon. Got in nearly midnight. Found a good fire, and had supper at 1:30 A.M. Found this pool frozen over. Distance about 20 miles.

**Tuesday, November 19th.** Slept until 10 A.M. In the afternoon Fred climbed some of the nearer hills. I sketched a little. Tou-mer-in-tou-cow-av and another Indian came to see us, and staid all night. Weather warm.

**Wednesday, November 20th.** Fred took rations enough to last 3 days; we loaded some ice into the wagon, and Hamblin took his things out 6 or 7 miles west for him to work up the western line of cones. Hamblin back at night. Major examined Mt. Trumbull. I climbed several of the outlying cones of the mountain, to ascertain their height and position.

**Thursday, November 21st.** Major and self climbed Mt. Trumbull to finish the work there. He has decided that it, as well as Logan and Emma, is a sandstone mountain through which the Basalt has poured. Found 8 Indians in camp. Among them the one who went to St. George and took rations to Thomp­son down the Grand Wash. He reported that party all right.

**Friday, November 22nd.** Hamblin took more ice and ra­tions out to Fred. The Major went out to help finish up the work. They will be gone 3 or 4 days yet. Our visitors remained until afternoon so I could not leave camp. Hamblin came in at dark.

**Saturday, November 23rd.** Went down the valley toward the Colorado. The work here is now finished, and when the Major and Fred come in will be ready to start for Kanab.

**Sunday, November 24th.** Laid around camp. Growing cooler and looks like snow: Major came in at dark. Fred at 9 P.M. He brought a sack of things, a roll of blankets, a camp kettle, and a 5 gallon water keg.

**Monday, November 25th.** Left the Uing Karet Mountains for the last time, I hope. Drove to the spring in the line of low cliffs south of the Vermilion Cliffs, called by the Indians Walk-er-Ump-Spits. Left the wagon 3 miles at the former camp. The stock came back about 10 P.M. and Hamblin and self took them up to the Spring and found one of Wheeler's parties camped there, under charge of Lieut. Dindurdie [Din­woodie]. They had an Indian guide and were going to the Shivwít Mountains. They are to be in Washington, Utah, by
Dec. 5th, where their party will disband. Drove 30 miles. Got in at 8 P.M.

**Tuesday, November 26th.** Fred went 10 or 12 miles to the southeast to climb the last of the Oo-nog-irat-sits. We let the wagon down into the cañon by ropes, and camped near the spring.

**Wednesday, November 27th.** Drove up the cañon to the top of the Mesa and got down very easily to the road from St. George to Kanab. Major went to Kanab. The rest camped at Pipe Spring. Made 20 miles. Met Riley at Pipe Spring.

**Thursday, November 28th.** Drove to Kanab. Twenty miles. Found all of the party there. John Renshaw, from Lacon, Illinois, had arrived a few days before to work a year. Found everyone busy packing up preparatory to moving. It has been decided that Thompson will remain in camp near Kanab for 2 or 3 months while Fred works up the map. Jack and Andy returned from the Shinimos country on the 12th. Had a good trip, but made no pictures.

**Friday, November 29th.** Spent the day in packing and loading. Tomorrow our party breaks up.

**Saturday, November 30th.** Left Kanab for Salt Lake, and home. From Kanab to Johnson 15 miles. To camp 17½ miles.

**Sunday, December 1, [1872].** To camp 25 miles. Leave Johnson Cañon 7 miles from camp. First water in Kanab Cañon 20 from Johnson.

**Monday, December 2nd.** From Johnson to Upper Kanab 30 miles. From Kanab to first water in Sevier Valley 12 miles. From there to Mammoth Creek 4 miles. To Sevier 5 miles. House at Mammoth Creek. Cross Sevier 6 times. To saw mill,

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161 John H. Renshawe, who was employed to replace Jones, continued with the Powell Survey and its successor, the U. S. Geological Survey, until his death in 1934. His maps and topographic sketches have been reproduced in many technical and popular publications.

162 The available records show that of the 11 men who constituted the expedition on its departure from Green River, Wyoming, May 22, 1871, 7 were active in service at the end of 1872. On November 30, Major Powell, W. C. Powell, Hillers, Jones, and Hattan left Kanab for Salt Lake City and only Hillers returned. Thompson and Dellenbaugh remained in camp "to work on the map." On February 12, 1873, the completed map was taken to Salt Lake City and sent by express to Washington. During 1873 the survey was continued by Thompson, Hillers, and Renshaw.

163 For a half century after the southern Utah settlements had been organized, the road from Kanab to Panguitch led up Johnson Canyon, then westward across Sink Creek Valley to Upper Kanab, and thence over the divide to the South Fork of the Sevier near the mouth of Asay Creek, thence down the Sevier. Areas of sand dunes at the head of Three Lakes Valley and lavas in Parunuweap Valley made the present shorter, easier route through Mount Carmel, Glendale, and Gravel Junction impassable.
from first house 10 miles. Made 30 miles. Sagebrush camp. General course from Upper Kanab to summit, northwest. From Summit to camp, northeast.

**Tuesday, December 3rd.** Northeast 2 miles then northwest to Panguitch 5 miles.\(^{104}\) Eighty families. Camp 15 miles below [north of] Panguitch—at Trachyte Upheaval [rugged cliffs near mouth of Bulrush Canyon]. Made 20 miles. General direction from Panguitch a little east of north.

**Wednesday, December 4th.** Through narrow cañon 8 miles [Circleville Canyon]. Trachyte to near lower end then rhyolite. Crossed river 6 times. Circleville at 13 miles. Ranche 9 miles [near Junction]. Camp 7 miles from ranche. Made 29 miles.

**Thursday, December 5th.** To Mary’s Vale 6 miles. From there across mountain.\(^{106}\) From the Vale to Alma [Monroe], 15 miles. Drove 6 miles farther and camped at Anabel Spring [Anabella]. Drove 27 miles.

**Friday, December 6th.** Bishop Stewart passed before day. Salina 22 miles from camp. Limestone on right. Salina Camp—8 miles beyond at Willow Creek. Made 30 miles.

**Saturday, December 7th.** Gunnison 7 miles. Dinner at Warm Creek 5 miles. Twenty families at Willow Creek; 150 families at Gunnison. Joseph Horn, Bishop. From Willow Creek to bend of Sevier 4 miles. Leave river at bend. Up cañon 11 miles. Day camp. Made 27 miles.


**Monday, December 9th.** Sixteen miles to Summit, Santa Quin. First sight of Utah Lake just south of Summit. Six miles to Payson, 2500 inhabitants. Three miles to Pond Town, Salem, 3 miles to Spanish Fork—camp there. Made 28 miles.

**Tuesday, December 10th.** To Springville 6 miles, to Provo 6 miles, to Battle Creek 10 miles. To American Fork 3 miles. To Lehi 3 miles. Camp at Rhodes Ranche at north end Utah Lake. Made 28 miles.

**Wednesday, December 11th.** Eight miles to point of the mountain over the divide. Salt Lake City in sight from the mountain. Houses all the way. Made 20 miles. Stopped at

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\(^{104}\) Panguitch, with a present population of about 2000, was founded in 1864, abandoned, then resettled in 1871.

\(^{106}\) The pioneer road from Marysvale to Salina passed over the highlands northeast of Marysvale through Alma (Monroe) and Anabella. Marysvale Canyon was impassable for wagons until 1918. The modern highway was constructed in 1934.
Nebaker's. Salt Lake City contains 25,000 inhabitants. Wheeler's party arriving.

Thursday, December 12th. Boxed up things for shipment, washed and put on good clothes for the first time in 18 months.

Friday and Saturday, December 13th and 14th. Finished packing and I finished copying my papers and turned them over.¹⁰⁸

¹⁰⁸It is possible that on the last pages of the diary Jones noted the date of his departure from Salt Lake City and kept a record of his homeward journey. In the existing manuscript an incomplete page is followed by several unnumbered pages of disorganized notes regarding field expenses, supplies, barometrical readings, and Indian words—obviously jottings not intended for preservation.
JOHN F. STEWARD
In Glen Canyon, 1871
Photographed by E. O. Beaman
Courtesy, William Culp Darrah

JOHN F. STEWARD
As he appeared about 1875
Courtesy, New York Public Library
JOHN F. STEWARD
1841—1915

John F. Steward was born June 23, 1841, in Plano, Illinois, the son of Marcus Steward. Following attendance in the common schools and working on the family farm in Plano, he enlisted on August 11, 1862, for a three-year hitch in the Union Army, in Company F, 127th Illinois Volunteer Infantry. Steward participated in the Vicksburg campaign, and in the movements towards Atlanta. However, he sustained a chest wound and back injury which forced his transfer, in January, 1864, to the Reserve Corps.

It was during the siege of Vicksburg that Steward made the acquaintance of Major Powell. Steward was an amateur geologist of considerable attainments, and the two chanced to meet while collecting fossil shells in the earthworks thrown up during the fortification and sapping of the approaches to the beleaguered city.

After Steward returned to civilian life, he entered the employ of the Marsh Harvester Company in Plano, at a wage of a dollar and a half per day. A few years later he invented a small device that greatly simplified construction of the harvesting machine then manufactured by the Marsh Company, and for this service was awarded $6,000. The money thus received gave Steward a measure of independence and afforded an opportunity to join Major Powell’s 1871 Colorado River expedition as assistant geologist.

The labor and exertion demanded by the exploring work wore Steward down rapidly, and the old back injury and a rheumatic affliction so disabled him that he was forced to resign. He left the party when preparations for the winter camp at Kanab were being made. Steward’s journal describes how he had to be carried on a litter during the closing weeks of the river work. Very understandably, this incapacity and anxiety contributed to his discontent.

After a brief period of convalescence and rest, Steward returned to work with the Marsh Harvester Company. Later, when it merged with the International Harvester Company, Steward was placed in the legal department at the home office in Chicago, where he advanced rapidly until his income reached $7,000 per year. He was offered higher remuneration on several occasions but refused, insisting that he was receiving ample pay and suggesting that the price of the equipment sold to farmers should be reduced instead.

Steward, though achieving a successful career in business and industry, never lost his serious interest in geology, the
Indians, and local history. In 1903 he published *Lost Maramech and Earliest Chicago*, which bears the sub-title, "A History of the Foxes and Their Downfall Near the Great Village of Maramech." Much of the material in this book was obtained through original research, but Steward engaged the assistance of Professor Marcel Andrist of Paris to search some of the libraries in France, to check sources not then available in the United States.

The nature of Steward's active scholarly interests is suggested by the memberships he maintained in professional societies: the Chicago Academy of Sciences, the Illinois Historical Society, and the Maramech Historical Society (of which he was president for many years). He died in Chicago in 1915, at the age of 75. A son, John F. Steward, Jr., died some years ago.

Steward, in the prime of life, was a handsome fellow, just under six feet in height, of dark complexion and manly bearing. He was independent, forceful, and energetic. His likes were many, his friendships sincere; his dislikes were intense, his enmities outspoken. Dellenbaugh characterized him as "of the most independent sort imaginable." All of the men of the 1871 party spoke well of Steward, the only serious criticism (by the religiously inclined Jones and Bishop) being Steward's indulgence in profanity and coarse language—a lapse possibly less horrendous than these, his companions, would have us believe.

Concerning his journal, Steward himself wrote in 1903:

This Journal was written in shorthand in 1871, and at this late date I have seen fit to copy it and place it in the library of the Chicago Historical Society for any possible use or interest that it may be in the future. In my eager studies of the early explorations of this country, I have grasped at every one of the early narratives that have come within sight, and feel that others may some time be glad to get bits of information from this.

Carbon copies will be made for the use of those I leave behind me. I cannot say that I am pleased that in Major Powell's reports all credit is given to the miners and trappers who took the preliminary trip with him, and almost none to our party for the geological, topographical, and photographic work accomplished. Why such a course was taken I will not explain, but merely say for myself, that no business motive should lead a man to be unjust, and besides, refer the reader to *The Romance of the Colorado* by Fred S. Dellenbaugh, one of our party.
These remarks at once reveal the defects of the journal as a historical document, the account that is preserved being an annotated and amplified copy rather than the original document. The transcription shows evidence of considerable editing before 1903. For instance, Steward had dated several notations "Note, 1890." Conceivably there are additions to the original diary; the selections he "had written home during the expedition" may or may not have been copied into the diary at the time.

Some of these alterations in the journal may have been unavoidable, the original being in shorthand, but the accuracy is thereby impaired. Many of the observations and opinions expressed have been tempered or colored by later events. Nevertheless, Steward's journal is full of suggestive and meaningful notes which contribute substantially to an understanding of the more intimate side of the expedition. Steward has some caustic comments about the Major, and a few left over for Hattan. Yet withal he exhibits a benevolence towards his companions. Each of the diarists (except the Major) indulged in personalities when the going was rough and tempers were ruffled.

The technical notes are particularly important. Steward describes in much greater detail than Major Powell many points of geological interest, and records the finding of a great number of fossils. Yet, despite the care and detail, Powell's sketchy geological notes cover many points which Steward either overlooked or considered unworthy of mention.

Steward, in the brief preface given above and in the journal, expresses resentment against the Major's use of his observations and opinions without giving due credit. The feeling is one of disappointment and injury, rather than rancor. In this criticism, Steward is unfair to the Major. Powell gives what appears to be generous acknowledgment, not only in the introduction to the monograph on the geology of the Uinta Mountains,¹ but also in scattered places in the body of the report. He wrote (Introduction: p. VI):

Nor must I fail to mention the valuable services of Mr. Steward; as he was with me in one of the earlier years of the work, and only in a portion of the region, his studies were but fragmentary and the results have not been directly incorporated in my general account of the geology of the country. I feel that I have not done him full justice in this matter, but the plan of publication would not permit the incorporation of his notes bodily, nor would such a course have done him

justice, from the fact that a more extended study has greatly modified opinions entertained by both Mr. Steward and myself at that time.

The geological sections measured by Steward are given in full in the report: the Uinta Mountain section on pages 57-58 (measured in Red Canyon), and the Cataract Canyon section on pages 58-61. Steward was aware of this acknowledgment but he believed it to be inadequate.

The "notes" of Mr. Steward, to which Major Powell referred in the acknowledgment, are preserved in Powell's "Notebook No. 3." This little manuscript volume, now in the possession of the Bureau of American Ethnology of the Smithsonian Institution, bears the title: "Steward's Notes and Sections." The field notes are neatly recorded and the two columnar sections, sketching the succession of strata in Red and Cataract canyons, are beautifully done.

Inasmuch as it is the usual practice to consider all of the field notes, technical data, and collections gathered by an expedition or project, the property of the project, and, by federal statute in this case, the property of the United States government, Steward had no personal claim to the material. Certainly the credit the Major published cannot be called niggard.

One other comment by Steward deserves notice, because it is suggestive of a feeling that the personnel of the second party were superior to the men of the pioneer trip. He speaks of "the miners and trappers who took the preliminary trip." George Bradley, Walter Powell, Jack Sumner, O. G. Howland, Seneca Howland, Andy Hall, and Billy Hawkins were hardly miners and trappers. Only Bill Dunn could be called a trapper, yet he was a man of many skills, including the rudiments of surveying. The word "preliminary" is also suggestive. Major Powell never considered the 1869 exploration preliminary, rather he considered the 1871-72 trip supplementary.

These criticisms are not intended to discredit Steward in any manner. He was a skilled observer. Steward, Bishop, and Jones were worthy assistants to Major Powell and Professor Thompson but, as in all great expeditions, the credit and glory are lavished by the public upon the leaders. The "great map" was platted by Thompson, and detailed by Bishop, Dellenbaugh, and DeMotte. In later years each one of these men considered it his map! Pride of accomplishment is a most human emotion, easily nourished, easily injured.

The journal must be read, therefore, with an unprejudiced mind. Its frank, honest, and informative approach makes it one of the more appealing records of the second Powell Colorado River expedition.
The narrative reproduced here is taken from the copy in the New York Public Library. Steward had given the copy to Fred Dellenbaugh, who annotated the typescript and made numerous minor corrections and comments. Some of these have been included in the text and are credited by the initials "F.S.D." I have followed the copy faithfully except to correct a few obvious typographical errors. I have retained the inconsistent spelling of proper names, such as "Paria." Apparently Steward was not certain as to the preferred form.

William Culp Darrah.
Green River City, May 22, 1871.

We left Green River City this morning at 10 o'clock; a few citizens were on hand to witness our departure. The boats, 3 in number, each 22 feet in length, about 4 feet in breadth and 2 feet in depth, moved in the following order: The "Emma Dean" in the lead, Major Powell in command; S. V. Jones, Fred Dellenbaugh and J. K. Hillers constituting the crew. We followed: Professor Thompson, F. M. Bishop, Frank C. A. Richardson and I, the crew of the "Nellie Powell." The "Canonita" came next with E. O. Beaman, Andy Hattan and Clement Powell. We have run 8 miles and are camped in a little valley, very fertile and having a few trees, with cliffs on either side that gradually rise, until a half mile down stream they seem to be a thousand feet high. The strata are probably of miocene tertiary. We have found scales and other fragments of saurians, and also several fresh-water fossil shells, melianias, paludinas, unios and others. Just beneath the shales we find a thin seam of coal, the quality of which we cannot determine without pick and shovel.

May 23. Upon awakening, at 4:30, we found rain falling, but it soon resulted in snow, and all the forenoon we were held in camp. About 10 o'clock the rain slackened a little and I took Section, my number 2; also collected some fine fossils from the locality visited last night, including more saurian remains.

We left camp just after dinner and have run about 6½ miles. The strata is still dipping to the west, but the course of the river has been such as to make the dip appear to be with the stream. We have seen some of the grandest scenery I have ever beheld. After running a mile we came to a vast amphitheater in the hills, rising from the river, which has cut into the bluffs a regular curve, leaving abrupt precipices not far from a thousand feet high. The strata, being of different colors, show beautifully in the sunlight and look as a thousand rainbows might if lying upon edge, one above the other. The beauties of the scene along the river are grand indeed. We camped tonight upon the north side in a small cottonwood grove. Beavers, though not in sight, are evidently abundant. This we judge from the many fallen trees. Some are 2 feet in diameter and seem to have been cut

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3The copyist may have taken liberties with the title of Prof. Thompson. It is here written out "Professor" but he was never called Professor but always just Prof.—F.S.D.
with ease. We shall have fresh fish for breakfast, the boys having caught about a dozen large and fine ones, of a species not familiar to me, but here called white fish.

**May 24.** Started this morning at 7; came 4 miles and stopped for dinner at one o’clock. Ran 4 miles this afternoon and have camped for night at Black’s Fork. The scenery of the day has continued most beautiful. Leaving our camp, which was between 2 high buttes about 800 feet high, we moved for a distance east and soon plunged into a ragged country. All boats stopped about 9 o’clock to give the photographer, E. O. Beaman, time to take what we have chosen to call “Dial Butte” (a name suggested by me). The butte on the other side of the river we have called “Needle Butte.” About these are bluffs and precipices.

Dial Butte is situated upon a high cone about 600 feet above the river. It is regularly cylindrical, about 200 feet high and 100 feet in diameter, capped with sandstone number 14 of my Green River Section, Number 1 (the floral sandstone). Needle Butte is similarly situated upon a rocky cone, of about the same height, and looked more like a “stack-pole” in a grain stack than anything I can liken it to. The “stack-pole” is about 25 feet in diameter and 250 feet high and is beautifully colored, the strata varying from black through brown to light drab. It is safe to say that it has never been climbed, and never will be. It reminds one of the tottering trunk of a dead tree, only awaiting a gust of wind to throw it from its giddy height into the valley. It is surmounted by the same sandstone as the “Dial,” and the shaly strata beneath being quite soft, it must succumb at the time the harder rock above yields to the elements. We mounted the summit of the cone and found the fishbed at that point much more prolific than at Green River City. We obtained some fine fossils from the base of the “Needle.” The topographers were given a splendid opportunity to view the country and add greatly to their sketches. We have passed through no stratum today above or below the section already taken. The strata have been gently undulated, but the general dip toward the west has persisted. Our course has been about midway between dip and strike, and we have slowly approached the top rocks of this region of country, which seemed to be, in all cases within sight of the river, the red sandstone No. 14.

Just before landing for the night we saw a group of deer, and I started for them, but found them not. Ducks and geese are very abundant and fish I have no doubt will soon become an old story, having had them for every meal so far. They average about 16 inches in length, are quite slim and have fine scales and large fins.

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Floral sandstone refers to the beds containing fossil plants, Green River Series.
May 25. We started early this morning and have run about 16 miles. The scenes have not been as fine as usual, but in most respects very fine nevertheless. We are nearing the Uinta Mountains and are probably between 15 and 20 miles away. We have passed one butte that we have called "Hermit Butte" (a name suggested by me because of its standing alone in the mountains). At noon we camped near a high butte composed of strata later than any we have had so far. I took a section and collected some fine melanias and unios from a bed at the top of the butte. The red sandstone has been dipping, and at noon it disappeared below the river. From this point it seems to ascend, and near our present camp is about 200 feet above the water level. The undulations of the strata have been very perceptible.

This afternoon about 5 o'clock the Major discovered a deer on an island, and shot at it, but missed. We then landed and found several of them. I heard one jump into the river on the other side of the island from me, and Professor and I started for it. The Professor shot first but missed; I then fired and killed it, as we supposed, and the Professor went for a boat to get it. It floated down stream for about 10 rods and recovered sufficiently to swim to the other shore. Another came bounding out of the willows and fell under my aim. Professor Thompson then shot another swimming the river. Hattan saw another swimming the other branch of the river and shot it, so that we now have 3 deer and can abandon fish for a while and try venison.

The weather has been warm all day, but this evening is quite cool. It seems to be a characteristic of this country to be very cold during the nights and warm by day.

May 26. We left camp early and ran down to our present camp, No. 6, reaching at 10 o'clock the foot of a ridge of tilted strata lying at a great angle, dipping to the northwest. The strata having changed so much that I failed to identify it at this point, the Major wished me to return until I could find the floral sandstone and follow it down if possible. I walked up the river 4 miles, to our morning camp, and found the bituminous shales; also red or floral sandstone, and traced them down. I found that the shales gradually became sandstone and the sandstone conglomerates. I made my estimates and concluded that we should find the shell bed that we discovered at our first camp where we are now. I had no sooner returned than the boys told me they had discovered a seam of coal with fossil fresh water shells overlying it. Upon examination I found that my surmises were correct.

The walk up the river so fatigued me that I made a raft of some flood wood and came to camp very quickly, but not in the most presentable style, for in order to avoid getting my clothing wet, in making and launching my raft, I had taken all off. The
boys declared that they took me for an Indian when sighted in the distance. I saw 3 deer when walking up the river, and could easily have shot one of them with my revolver had I felt so inclined; it watched me until I approached to within about a rod and then took fright. We now have so much venison on hand that we shall not need more for a long time. At our camp the strata is very much tilted (at an angle of about 38 degrees), exposing thousands of feet of strata. These series of strata extend parallel with each other as far as the eye can reach.

May 27. The Major directed this morning that we come down as far as Flaming Gorge and go into camp for a day or two to enable Professor Thompson to take time. The "Nellie Powell" came at 8 o'clock with all her crew but me—Beaman delayed in order to take some views, and the Major and I to geologize. I was so lame from my climb and walk of yesterday that I could not do much, so we came early to camp. This time we are in a little cottonwood grove just within Flaming Gorge, which has only enough soil for a foothold for a few trees. The gorge is so called because of the bright red colors of the rocks through which the river passes. The cliffs on the other side are very abrupt and about 800 feet high. The strata are so tilted that they form great ridges where the softer beds have been eroded away, and the river seems to turn back and forth with just room enough to pass between. At this point the river runs into the jurassic strata which dips to the north at 78 degrees, the river having cut its way through shaly beds and left the harder rocks standing upon their edges.

May 28. This morning I started out and went south through the red sandstones, possibly triassic, and finally down into the carboniferous deposits. Found fossils very rare, but obtained some specimens of belemorph and a few fragments are bivalves that I cannot identify. This afternoon the Major and I went back through the upper jurassic beds into the fresh water tertiary and collected some fine rhyconellas and belemnites and a unio.*

(Note 1900. This species later having been found to be new, one of the earliest of that genus, it was named for me—Unio Stewardi). The rhyconella seem to be out of place in what appears

*These are genera of fossil mollusks. The correct spelling is rhynconella. The Major's journal entry reads: "Steward looks for fossils among the carboniferous rocks until noon. He and I trace strata and collect fossils from camp in Flaming Gorge to Henrys Fork near old cabin and return at night. Find Jurassic fossils." The mention of a cabin is interesting because some sheds (the proto-Fort Bridger) in 1841 were built on the Green River—as Jim Bridger told Lieutenant Gunnison in 1850—between the mouths of Blacks Fork and Henrys Fork. This cabin, however, may have been a later structure.  

Unio Stewardi I. C. White 1876. The reader should remember that Steward's diary has been corrected and added to through the years by Steward himself.
to be a fresh water deposit, and the unio equally out of place in jurassic strata. If these specimens are not actually rychonellas, they are certainly not far removed from that genus. I also found the remains of a huge monster; the femur was oval in section, its greatest diameter being about 10 inches. The ribs were 2 inches thick and 6 inches wide. Had we transportation facilities we could easily care for it, as the strata, here being vertical, has weathered away leaving the bones largely exposed.

May 29. Left camp about 8 o'clock this morning amid tremendous winds. The waves ran high, often leaping into the boats, but doing us no harm. We passed through Flaming Gorge into Horseshoe Canyon, and camped at its end to avoid the rain that set in just after leaving camp. The river has cut its channel through carboniferous rocks to the depth of about 2500 feet, leaving perpendicular walls on either side. I went out this afternoon and climbing the walls took a section in what I will call, for the moment, triassic beds, on the west side of the river. I have passed through about 1700 feet. Our camp, near Kingfisher Canyon, is in a field of globular cacti. So abundant are they that a person might collect thousands of them in a half hour.

May 30. I left camp early this morning, with Dellenbaugh to assist me, and took a section of the strata running back to the close of my last. We climbed to the summit of a ridge of jurassic strata, over a thousand feet high, almost perpendicular. It took us 2 hours to make the ascent, and we then went back over the ridges until we came within calculating distance of the coal seams, and found ourselves about 4 miles from camp, with 8 ridges between, ranging from 50 to 1000 feet high. We chose to return by way of the last camp in order to avoid so much climbing, and started on our return at 3:30 and were until 8:30 in making camp. Our dinner had been nothing but 3 small hard biscuits and a small piece of venison, all that the cook had in the larder. When we returned we were so tired and hungry that we could hardly walk; several times I became exhausted to such an extent that I had to take frequent rest. Having had several previous days of hard climbing I was very sore, and the 10 miles' walk during the day (a great many of them set upon end, as it were) made the hardest day's work I have had.

May 31. The day has been pleasant and we ran about 2½ miles. We stopped at 2 o'clock to allow Beaman to take some views, during which we chased a deer, that got away at last with several balls. We came through Kingfisher Canyon—the scenery is beautiful in the extreme—and stopped this afternoon about 3 o'clock, at the entrance of Red Canyon, and expect to remain until tomorrow night. Went out geologizing this afternoon.

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5 In all probability part of a dinosaur skeleton.
6 Steward was used up—I was not but I was tired.—F.S.D.
When I had made all of my preparations to go, 3 of the boys jumped into a boat and took me across the river, Andy at the helm. In the stupid way in which he does everything, he ran us into some overhanging bushes that threw me into the river with much force. Falling on an oarlock, the breath was knocked out of me, but I clung to the boat until I recovered sufficiently to climb in. My breeches, of buckskin, were more dampened than my ardor, however. At the point reached I found carboniferous strata; the beds were so tilted as to practically stand upon their edges. I climbed up a little gorge, examining the rocks as I passed, and finally found myself surrounded by beautiful scenery. The rocks were so cragged that they seemed to pierce the horizon.

Thursday, June 1, [1871]. Have spent all of the day geologizing, working down 3 of the carboniferous and taking a section of the devonian strata, about 4000 feet in thickness.

June 2. We left camp about 8 o'clock this morning, and all went merrily for awhile. Soon we began to hear the roar of distant falling waters and were made aware that we were approaching a rapid. We stopped to prospect and found that the way was clear, so tying everything fast down we went through a very heavy rapid, shipping but little water. We were still seaworthy, however, and on we went plunging into an eddy at a quick turn of the river; but soon out of that we were under full headway. The Major, being in advance and thinking that he saw some rock ahead, motioned to us to go to the right. Continuing his signals with great vigor, we thought he meant for us to land, and pulled for the shore with all our might. Failing to make the little sandy beach, we turned down stream, as a last resort, knowing that if we could once get our boat fairly back into the current we would then be at the mercy of the raging waters alone; but the little "Nell" was too heavily laden to be under perfect control, and before we could get her fairly headed down stream we went into the rocky cliff. In vain we strove to ease the blow with our oars, but the effort was too late. Crashing we went against the rocks that projected out into the stream just where the river made its most sudden bend. The sides of the little "Nell" were stoved in and the undercurrent turned her keel upward. Here went an oar, there a life preserver, a coat, and all we could do was to strive to save the pieces. Two oars and a coat I saved, threw them on the ledge of rocks, but stuck to the overturned boat, bound to hold her where she was till she could be rescued. Clinging to her and the rocks Professor Thompson saved his oar and various other things. Bishop grabbed a rope, sprang

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7 Not fair to Andy.—F.S.D.
8 They did not remember what the Major's signals meant.—F.S.D.
9 "Little" is here a term of affection; the three boats were identical.
to the rocks and quickly snubbed her to a small tree that was standing there. In the excitement Richardson had escaped notice. When the boat foundered she turned him over into the water. Professor grabbed him and he was saved. Our little boat was loaded to an extent of about 1100 pounds, but still the water-tight compartments prevented her from sinking—she lay there keel upward, and I, remaining there, held her from pounding against the rocks, while the remainder of the crew pulled her off and upon the sandy beach where we had endeavored to land. The other boys were more fortunate in that they had gained the middle of the river, and so went through with little difficulty. They knew that we were in trouble, but could not come back to us. We were entering Red Canyon, and the perpendicular walls on either side prevented them from coming to our rescue. After they had made a successful landing, some distance below, the Major, anxious for our safety, climbed the rocks, 1400 feet high, and made his way to a point nearly above us, on the same side of the river. The roaring of the waters deafened our ears to his calls, but he saw that we were all safe and repairing our boat and was satisfied that we would soon be down and with them. We got our little boat upon the shore, bailed her out, examined the hatches, and found our personal effects were all dry and in good order. All being born mechanics, with the tools at command, we went to work, brought her displaced ribs into position, replaced her planking, nailed them as well as we could, stopped the leaks with our calking tools, and were soon ready for the start. We pulled up the river a little distance and then struck out into the current, where we should have gone before, and would have had we understood the signals of the Major, and went down in fine shape. We joined the "Canonita" and "Emma Dean" with a hurrah, at the point where they had landed and waited for us an hour and a half. We made another little run and then stopped for dinner. The rest and dinner refreshed us, and we were as ready and willing to advance as the rest of the party, and were soon off. Another rapid was before us. We stopped and the Major, as usual, went down the bank to explore. He soon returned and reported that we might go about ½ of a mile, if we could cross the river successfully, but that we would have to make a regular portage, a thing that we had not yet done. To make a "portage" means to unload the boats and let them over the falls, or carry them around and then carry their cargoes to them. The "Emma Dean" started first, but her crew finding that they could not make the landing intended, jumped from their boat into the river, waist deep, rope in hand, and reached the shore. The boat was towed ashore safely. We made the next attempt, and the little
"Nell," this time, not to be outdone, shot across like an arrow. The crew of the "Emma Dean," fearing that we could not land, stood far out in the swiftly running stream ready to catch us, if necessary, but we did not need their assistance. Then came the "Canonita," this time her turn to be in a critical situation. The crew made a poor start, heading a little too much down stream. The current took them at a rapid rate; Beaman, the helmsman, soon got her under control, however, but she was very near the rapid; they pulled steadily and with might, but were constantly nearing the falls. We ventured out into the river as far as possible, just above the beginning of the torrent, and to this point they came. We seized the boat, hauled it ashore, and they, as well as we, felt relieved. We then unloaded our boats, made a portage and went into camp feeling very tired after a day of very hard labor.

June 3. Remained in camp all day.

June 4. We started all this morning and passed 3 rapids—at 2 of them we had to let the boats down with ropes. Went into camp at noon and have remained, completing the day geologizing. I continued my section 1500 feet.

June 5. We ran about 8 miles today and came to Ashley Falls; made a portage, letting down the boats with difficulty, and carrying the rations over the rocks. It was thought possible to make line portage, as we call them, with ease, and we began with the "Canonita," by attaching a line to both bow and stern and guiding by the ropes alone. Although with bow up stream, the pressure was so great that she broke away. By mere luck some of the boys seized the stern rope and made it sufficiently fast to hold her. She pounded against the rocks until I jumped to the boat from the rocks above, and secured the rope to her bow again, but with much difficulty, yet without being thrown out. We then went into camp at the foot of the falls.

June 6. Loaded up and ran about 8 miles, and are now in Little Brown's Park, very pleasantly encamped beneath a large pine tree. This has been the roughest day's travel of all. We have shipped water in almost all of the rapids, 8 in number.

June 7. Spent the day climbing mountains on the right side of the river to a height of 4000 feet. F. M. Bishop, the principal topographer, having left a girl behind him, named it for her, and if it is mapped in, as it undoubtedly will be by his own deft pencil, it will be found as "Mount Lena." We made the ascent in 4 hours, the way being gradual but the climbing difficult because of fallen timber. Taking the wherewithal for lunch with us, we prepared the same at 11 o'clock, on a little mountain stream; then proceeded to the summit and spent a few hours,

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11See Mr. Kelly's note, p. 269.
returning to the creek to partake of further refreshment; then reached camp in due time. The view of the Uinta Mountains from this summit is beautiful. We could trace Green River from our camping place for probably 50 miles. A splendid view of the Wind River Mountains, as we took the range to be, was had. The elevation above the surrounding country seems to be greater than anything in sight. We could also see the outline of the Canyon of Lodore, about 40 miles away.

**June 8.** We started early this morning and came as far as Brown’s Park, running, in the meantime, 5 bad rapids, which were passed without accident. Arriving at Brown’s Park, we were surprised to see wagons and some men in camp. They were herding 3200 head of cattle, and kindly offered to take any letters and packages to Green River City, whither they were going the following Sunday. Spent the afternoon geologizing in metamorphic rocks upon the mountains, to the north.

**June 9.** Spent the day geologizing and writing letters to wife and the home paper.

**June 10.** Remained in camp this forenoon, not having fully recovered from the excessive fatigue of my yesterday’s long walk. This afternoon I have examined some interesting postpliocene rocks that have been deposited in the valley. Richardson is to leave us. I let Bishop have my revolver to trade with Richardson for his flute. I had fired the weapon several times. Bishop took a fancy to practice at a mark, old soldier as he was, and did so; it burst and that broke up the trade, so we shall have no instrument except Fred’s mouth organ.

**June 11.** Nothing worthy of mention has transpired, except that poor Richardson left this morning; saw him mounted upon a pony bound for Green River City; with tears in his eyes and a “God bless you” he left us. We pulled out and have run 15 miles, and are now camped in a little grove of poplar trees on the south side of the river. The stream is most beautiful here; its current is so quiet that during the greater part of the distance an occasional stroke only was necessary to give steerage. The day being fine, the boats were lashed together, and the Major, in the middle one, read his favorite selections from Scott.

**June 12.** Have been geologizing, and have traveled between 18 and 20 miles, Jones and the Major being of the party.

**Sunday, June 13.** I am writing this in Winnie’s Grotto, upon a ledge, sheltered from the sun’s hot rays of this summer’s day. I am fanned by the breezes that come in puffs down into the crevice from far above, and my brow is cooled by the spray that falls from the crevices on the other side. Rearing above me through the narrow cleft in the rocks, nearly half a mile high,

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12See Mr. Kelly’s note, p. 270.
13These letters have not yet been located.
is to be seen a narrow band of blue sky, unstained by an occa-
sional fleecy cloud. Sitting in this little amphitheatre, facing the
east, the eyes fall upon the cliffs of the other side of the river,
which, in their mad yet beautiful grandeur, seem striving to
reach the clouds. At the base of the cliff runs the river, dashing
over fallen rocks that strive to check its progress. Up the nar-
row canyon comes the sound of falling waters reverberating until
the dashings and splashings coalesce and produce a continuous
murmur. The sun sends but a single beam down through the
crevise, thus lighting up this little amphitheatre; the drops that
come trickling from the ledges above fall through it and seem
like thousands of diamonds. Bishop is with me, and he will map
in this little place and give it, at my wish, the name of my little
baby daughter. The walls gather in above, forming a little dome,
and leave but a narrow crevice for the eye to reach the sky.
The walls seem about 2500 feet high. A mountain rill, revived
by occasional storms, has cut this narrow chasm. The rainy
seasons and the melted winters' snow have done their work;
their waters jump from ledge to ledge; then strike this pavement
and dash along to the river just in time to mingle with its waters
as they leap over the first fall of the Canyon of Lodore.

June 14 and 15. Wednesday morning the Major expressed
a wish that I go across the valley northwardly till I could find
the axis of this great Uinta upheaval, wherever it might be, in
order to begin our new section. He also desired to have a sketch
made wherever we might find it, crossing the river from north
to south so as to begin a new series. Fred Dellenbaugh, the
artist, accompanied me. The distance seemed to be 10 miles or
more, and hence we provided ourselves with 2 days' rations, 2
canteens of water, our rifles and a pair of blankets. About 8
o'clock we started and, following the river for about 5 miles to
the bend where it turns to the west, left it, taking our course due
north. Crossing the valley we walked about 3 miles and reached
the foot of the mountain bounding the valley that we had crossed.
Our journey so far had been pleasant, although the day was
beginning to be very warm, the thermometer standing 98 in the
shade. We made the ascent of the foot-hills, about 500 feet in
elevation, and about a mile further on our way, stopped to rest
and take refreshments. We made the discovery that Fred had
forgotten his canteen and that the water in my own was nearly
gone. It was 11 o'clock and still warming up. That we could
not do without water all day was very certain, but our work
might not last very long, as we could possibly find the axis within
a mile or two. That we could not eat Andy's peculiar biscuit
without water was quite certain. We concluded to take but
one gun further with us, leave the other and our provisions by
the side of a large cedar tree, make the ascent, then hurry in
our return and go to the river. We climbed on for an hour but did not find the object of our search. The fierce heat of the noonday sun and copious perspiration conspired to make our thirst unbearable. It was not necessary for Fred to go any further, as his sketches were only to include the mountain valley—there was no need for both to suffer—he might go to the river as well as not, first making his sketches, however, but I must necessarily continue up the mountain. He left me saying that he would go by the place where we left parts of our outfit and take his rifle and blankets with him, while I would return later and bring my things and spend the night together at the river. I continued climbing up the mountain, at a rate as rapid as my thirst and hunger would admit, reaching the object of my search about 2 miles farther, at 3 o’clock. Taking my notes as rapidly as possible, and making sketches to aid Fred, I hurriedly descended, reaching the hill upon which we left part of our loads, in an hour. Not finding them where I supposed they should be, I concluded that I must have passed them. Retracing my steps for a short distance, I came slowly down, looking more carefully than before, but still without success. I queried if Fred had taken them, but I thought probably not, for he had agreed to leave them for me. In vain I sought. Excessive thirst so bewildered me that I seemed to have lost all remembrance of any specific clews [sic]. The features that distinguished that particular tree under which we left them seemed to be common to all trees; many of the cedar trees had large stones beneath them, and cacti near by; mountain sheep had left their trails by many. The principal sheep trail that passed near the tree had divided into a number, and the few patches of soil that retained the imprints of our feet, when first passing over the ground, had become so betrodden that our original steps rendered no aid. The excessive exercise and the heat of the day had made my thirst torturesome in the extreme. My mouth was so dry that the little saliva present seemed more like a mouthful of strings than anything to which I can compare it. All this misery, yet there flowed the river, with water enough to supply a hundred cities like New York, plainly in sight, but it was fully 3 miles to the nearest accessible point. We had no more work to do, and if I could find the things and take them to the river I should not have to return. It was then 6 o’clock, and if I should go without food and gun, we would have to return and find them before we could have anything to fill our empty stomachs. It was too late to expect to get to the river much before dark; to go would be to miss supper, breakfast and dinner, perhaps. The only alternative was to abandon the search and return to the river and quench my thirst, notwithstanding the fact that the drink would cost me more than 6 miles of very rough travel. Hastening down the
foot-hills, I struck out for the river, expecting to meet Fred at the cottonwood tree that we had selected before parting on the mountain. It is needless to say that I made tracks rapidly. It was water, only water! When within 2 miles of the river I happened to turn my head and saw a human being skulking along—an Indian he seemed. I stepped into a gully and watched his movements—he was evidently watching me. He turned out to be Fred, who had found his gun and blankets, after having sought them an hour, and besides had lost his way; so, though 2 hours behind him in making the start I was still beating him in the race. The river reached, we threw ourselves upon the low bank. I cannot say that we lowered the river any, but we did satisfy our thirst. A bath revived us, and as we left for the mountain again the sun dropped beneath the hills. We proceeded a mile before full darkness set in and spreading our blankets, dropped asleep. Waking at 9 o'clock we could see the bright fire of the boys' camp upon the knoll we had left in the morning and see them pass before it, though we were 5 miles away. Falling asleep we slept soundly until daylight, half past 3 o'clock. We had been sleeping along some coyotes' holes, and their fresh tracks were numerous. It was just light enough to see the notch in the mountain where the little creek, in its more lively moments, had cut the gully. We reached the foot-hills just as the sun climbed the mountains. It was not necessary, we thought, for both to climb the hills, as we were in a more quiet frame of mine [mind], yet hungry, but not thirsty, and much rested. So leaving Fred, I made the ascent and began the search. An hour passed; the search seemed in vain; should I leave the things and return to camp? I resolved not to give up so easily. Signaling to Fred, he joined in the hunt, and another hour was spent, and at its close we found all—the brilliant reflection of the sunlight upon my gunlock caught my eye and revealed the place. Our provisions had not been harmed, and, taking a hurried bite, we returned to the river, made some coffee, broiled some venison and at 11 o'clock, having finished our notes and sketches, started for camp, arriving there at half past 3 in the afternoon.

June 16. The messenger whose arrival we had been expecting, came from Green River City, 120 miles distant, with the not encouraging information that he had no mail, it having been sent to Salt Lake City to eventually be brought to us from that place. We had been ready to start for several days, and

14I had not lost my way but was trying to find out what had become of Steward in all this time. He was dead sure he could find the things so I thought something must have happened to delay him so long.—F.S.D.
15Dellenbaugh says there was no venison, it should be "beef."
16Dellenbaugh says the date should be June 17, and this is evidenced by comparison with the other journals.
LODORÉ CANYON—LOOKING DOWN THROUGH THE GATES TO LODORÉ

Photographed by E. O. Beaman, 1871

Courtesy, U. S. Geological Survey
after handing him letters that we had written to those at home, we pulled out and entered the gates of Lodore at 3 o'clock. Through these gates there is no return, the only exit being at the other end of the canyon. After 2 hours of cautious running and passing several little rapids, we could hear the roar of one that seemed to be only around a sharp bend. At its head we camped for the night upon a little sandy beach among some scrub box elders. Although but 5 o'clock, the sun to us had set 2 hours before. During the afternoon we spent a little time in Winnie’s Grotto, and the topographer took several views thereof.

June 18.17 The first real rapid we found to be a fearful one but we ran it successfully. By careful management we avoided several rocks that beset the channel at the entrance. Passing it successfully we ran on till night, 7 rapids in all, and landed just above Disaster Falls, making a landing with great difficulty. Here the “No Name” of [the] Major’s preliminary trip was lost 2 years ago; we found several fragments, although at the time of the disaster not a splinter was recovered. The rapid was $\frac{3}{4}$ of a mile long and we made a portage that distance, carrying our rations and instruments over trails that seemed to dare us to make any attempt to pass. Leaving Disaster Falls we ran several more rapids and arrived at Triplet Falls, which were a repetition of Disaster Falls. Here we remained a day to let the boys climb out. The walls are 3200 feet high and almost perpendicular on either side of the river. At the very place where the summit is accessible, is a gully which they had to pass up the whole distance, at an angle of about 40 degrees. These cliffs were named in honor of [William] Dunn, who was killed by the Indians on the Major’s first trip. After spending 2 hours at this place, making a portage, we left for the next obstruction that might present itself. This we found to be a series of rapids which continued for a long distance. The channel is filled with massive rocks that have taken a leap of 3000 feet from the summit as if in an attempt to dam the waters that are now seething over them. These troubled waters were considered worthy of an expressive name. “Hell’s Half Mile” seemed proper, and the topographers were instructed to so put it down. Passing many bad rapids and much fine scenery we left the canyon, and at 5 o’clock arrived at the mouth of the Yampa River.

June 18. Broke camp about 8:30 and immediately ran a bad rapid; passed through smooth waters for about $\frac{3}{4}$ of a mile, and then struggled through a succession of rapids till noon, when we stopped for dinner on the right bank. Pulled out at 2:15 in the afternoon and ran a number of rapids, some of them quite bad.

17There is some confusion of dates here. Steward had evidently, from his language, fallen behind with his diary, and in bringing it up to date wrote two versions of the events of June 18.
At 4 o'clock we landed at the right bank at the same place the party camped 2 years ago, at the head of what was then named "Disaster Falls," so named because of the loss there of one of the boats, the "No Name." Our boat was left behind with the "Canonita," the Major running ahead with the "Emma Dean" to reconnoitre the falls preparatory to passing the same. The bed of the river, at the upper part of the rapid, is evidently very smooth for a little way, as there are no breakers. At the head of the fall the channel narrows very much and at a point a little below the beginning the waters flow from all directions into this narrow gorge, where the water becomes exceedingly troubled. Being deceived by the smoothness of the water above, we did not make the proper haste to land, and, but for the vigorous signaling of the Major, we should not have known of the danger; in fact, we did not appreciate our danger until we had landed just soon enough not to be taken into the rough part of the rapid. This rapid, although deceptive, is no worse than others we have passed, and I may liken it, at this stage of the water, to the rapids below the falls of Niagara.

June 19. Made a portage around these falls of about a quarter of a mile and let the boats run down by line through a sea of foaming billows. Jones and I stood in them with oars to prevent the frail crafts from being dashed against the rocks. We next loaded and let the boats down a short distance by line; then made a long portage, carrying the cargoes a half mile over a rocky point, and all this with the thermometer at 90 degrees in the shade. Andy, with his cooking utensils, had preceded us, and after this half mile portage we found dinner in readiness, and his warm biscuits tasted good. They were made from a hundred pound sack of flour that he found upon the rocks where it had been left by the Major's prospecting party 2 years before. We also found an oar upon the rocks and another in the driftwood at the water's edge. After dinner we set to work again, got the loads over and the "Emma Dean" down to our present camp on a sand beach. I received a bad fall in getting out of the boat. As we ran over a rock she careened, forcing me over the side with my head under water. I quickly recovered control of myself and we went through all right. The "Nellie Powell" and the "Canonita" were left above the fall for the night, all of us being too fatigued to attempt to bring them through. We had made but about a mile during the day's efforts, and again slept within hearing of rapids—dinner station and night camp both

18 They were warned about the approach to Disaster Falls and the danger of the "sag" at the head, but were careless.—P.S.D.
19 Prospecting is hardly the correct word; Steward means the prior or pioneering expedition of 1869.
on the left bank. The river at this point falls about 50 feet in a half mile.

June 20. Brought the 2 boats part of the way, and then loaded and let them down by ropes about a quarter of a mile. Stopped for dinner upon the left bank. Started again at 12:30 and ran about a mile and three-quarters, mostly through rapids, and made camp at the right bank at 4:00. The walls are about 2500 feet high and vertical. A slight shower at the dinner camp.

June 21. Broke camp about 8 o'clock and let down by line 3/4 of a mile, which took all of the morning. Prof. Thompson and I ran up a gully at an angle of about 45 degrees, after 11 mountain sheep. They were a rod or two in advance at the start, and though we followed them to the top of the cliff they were nowhere to be seen when we reached the summit. At our dinner camp we found a vise and an axe left by the previous party. Pulled out at 11 o'clock and ran about a quarter of a mile. Fred left his sketch book and Bishop his compass at the head of the first portage, and they had to climb the rocks and make their way as best they could to get them. Ran several rapids and then reached what was called, by the previous party, "Triplet Falls." Made camp on the left bank among some box elders. The cliffs on the other side are about 2000 feet high. From the bank of the river we could see the top of the cliffs, and slightly back those that drop into the river. Others rising behind are about 3000 feet high. Ran about 2 1/4 miles of the roughest water we have seen.

June 22. This morning the Major, Prof. Thompson and Bishop climbed out to take observations. I was so lame from my fall in the boat yesterday that I was compelled to remain in camp. Slight rain near noon. The mountain party returned about 6 in the evening, having climbed over 3200 feet above the river. The sky became overcast with dark clouds, the thunder rolled among the mountains, and just before supper time, for a few moments, we had the best rain of the season. We have found many pieces of the "No Name" and things abandoned by the previous party, ever since leaving Disaster Falls; yesterday a number of Putnam's magazine; today a board from the bulkhead of the wrecked boat.

June 23. Broke camp at 8 o'clock and in Triplet Falls made 2 portages; then ran about a half mile to the head of the worst yet seen. After passing it the Major asked me if I could suggest a name sufficiently expressive and I replied with the query "Will Hell's Half Mile suit?" and he directed the topographer to so put it down. Made 2 portages with the "Emma Dean" and got her and most of her cargo to the foot of the falls. Did not try

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20Hell's Half Mile was named on June 23. Compare, however, the entry for June 17 above.
the other boats. The water boils, roars and foams, and there is not a quiet place in the entire distance. Found night too near and ourselves too tired to do more, and so went into camp at the head of the falls. I might have said that in letting down the "Emma Dean" she capsized and went over the worst place keel up, but received no injury.

June 24. Started with the "Nellie Powell" quite early, and worked hard until 1 o'clock in getting her and the "Canonita" to the foot of the fall. The cooking utensils were taken in the "Nellie," and by the time we got the last boat down our dinner was in waiting. This had been the hardest portage of the trip, so far. We had to make a trail and carry everything over ridges, great piles of talus and through deep gullies. The river falls about 50 feet in a half mile. We pulled out again at 2:15 in very bad waters. After running about a mile, in trying to avoid the rocks on the right, the "Dean" came very near striking a huge one on the left. We followed, but struck and hung for a moment on the summit, and then plunged down into the waves nearly out of sight in what might be considered a wrathful sea, but came through all right. We soon came to the head of another fall, and camped at 3:30. Our day's run has been about 1 5/8 miles. I omitted to say, in my yesterday's writing, that in the forenoon, about 10 o'clock, the camp fire broke out and when we reached the spot from about half a mile away had hard work to save the supplies.

June 25. Remained in camp until afternoon to allow Beaman to take views along a beautiful little brook and up its canyon. "Leaping Brook" it was called, because of its frequent leaps taken from ledge to ledge as if eager to make its descent. We worked up this little canyon, with walls between 300 and 400 feet high, but soon came to a precipice over which the brook leaped, forming a beautiful cataract. We passed it and picked our way as best we could up the talus, wherever we could find footing, and reached another entrance into the canyon, 400 feet higher. We wended our way around this beautiful alcove and climbed up and still up from pool to pool, where the waters found rest for a moment, only to take another and still another dash, their echo reverberating, but dying away only to be brought to our ears again by the breezes. We tried for a half hour, and succeeded in getting to another point still higher, into a fine amphitheater; and after resting and refreshing ourselves from the pool, in which the sun has never shone, we thought, to save ourselves a long walk back around the walls, we would slide down upon the sloping places that we could not ascend, which we were sure we could do, and succeeded in the first place, about 200 feet, and also in the next

21He is adding this note on the 25th.
place, about 25 feet; but to our surprise the last slope was nearer vertical than we had thought and so rocky below that, should we attempt it, we would no doubt break our limbs, or at best bruise ourselves. We could not climb back up the slope we had just slidden down, as there was no footing. Fortunately, Jack had remained down, and calling to him, we received his assistance, without which we would have been in a bad plight indeed. He broke a dead pine sapling from a crevice, and leaned it against the rock on which we were. By this means we were enabled to risk a slide down, but with much danger, because the sapling was small, dead and weak. We left our names\textsuperscript{22} in this almost inaccessible place and returned to the boats where we did a good dinner of boiled beans full justice. Broke camp after dinner and let down by line about a quarter of a mile, and then struck out through small rapids and soon reached Alcove Brook, a mill stream that enters from the left through a narrow canyon. We followed it to its head, and found it to be only from the springs up in the cliffs, which are from 500 to 1000 feet high, leaping and dripping down; thus uniting they form a respectable little brook. Beaman obtained some fine views. Pulled out again and ran through comparatively smooth water for 3 miles to the mouth of the Yampa River, and camped just at the junction of the two streams. The red sandstone that has formed the walls of the Red Canyon and the Canyon of Lodore has dropped gradually, and from the mouth of Alcove Brook the limestone of the carboniferous age has been seen approaching the river and, at our camp, it drops beneath the surface of the water. Its beautiful colors imitate those of the rainbow. The strata here dip to the south, and as we approached a short bend in the river, to the west, we find that the river has cut its channel parallel with the strike. The channel now occupies the space between almost vertical beds. Then turning suddenly, after a few miles, it runs directly south, leaving the Yampa River about midway; then turning abruptly to the right it doubles upon itself, passing the same fold, through the ribbon cliffs and back into the red sandstone.

At the mouth of the Yampa or Bear River we remained until the morning of July 3rd, climbing out in various directions, taking observations of latitude and longitude, etc. In the meantime the Major and [several] of the party lightened the "Dean" and spent 4 days up the Bear River, and that on 3 days' rations.\textsuperscript{23} They had a hard pull up stream and a hard time making up stream portages. In the 3 [4] days that they were going [gone] they accomplished about 12 miles. Aside from the views they

\textsuperscript{22}I, Steward, Dellenbaugh and Clem Powell [note by Steward].

\textsuperscript{23}The Major made a side trip up the Yampa, taking with him Hillers, Jones, Hattan, and Beaman, first leaving behind most of the "Dean’s" cargo. For their experiences see Jones's journal.
obtained they could have done the rest of the work in a day, had
they walked. This I think could have been accomplished with
perfect ease judging from the appearance of the valley as I saw
it from the tops of the cliff.

On Friday, June 30, Professor Thompson, Bishop and
I climbed out on the left side of the river, a little beyond
Echo Wall, and spent the day among the peaks. For a
mile the water is still and we floated down to the bend of
the river, secured our boat, followed up a fine little brook to a
point where its canyon divides, and then took the right branch
and continued to its head. This took us to the foot of the moun­
tain which we wished to climb. It is capped by the same strata
we passed up through, so far, but owing to lateral pressure dur­
ing some late geological change (since the deposit of the eocene
tertiary), a fold has been thrown up more than 2000 feet. The
strata from the little canyon to the foot of the mountain, are nearly
level, dipping gently to the south; but reaching the foot of a
ledge the lower strata are vertical; beginning to slope, however,
as we ascend, they became nearly horizontal at the summit. The
rocks are bent in places in a fine curve. Beginning to dip very
gradually, they finally become vertical and complete a quarter
circle, with a radius of about 2500 feet. These mountains are
cut by gullies, giving their sides cragged fantastic appearances.
The different members of the ribbon beds, the parti-colored lime­
stone and sandstone, their vertical edges cut into saw teeth
lapping upon the mountain, appear in the sunlight like tattered
rainbows. Our ascent was attained after much labor and, I may
safely add, with great risks. Climbing upon the serrated ridges,
we made the last thousand feet over steep ledges, through
crevices, with each other's help, the last place being a narrow crack
15 inches wide and about 20 feet high. We pressed our knees
against the side, then raised our shoulders and pressed them
against the wall, then drew our knees up again, and so, cater­
pillar-like, we reached a narrow ledge that put off from the
main mountain. Following this for half a mile we were upon
the very summit. We could look over Echo Wall, 1000 feet
high, that divided the lapping bend of the river, down into the
Canyon of Lodore. This was a different point of view and we
looked up along erstwhile-dreaded Lodore with feelings of satis­
faction in that we had escaped so easily. Its horrors were past.
To the south could be seen only a vast plateau which drops off
apparently just as its southern outline blends with the haze of
this hot summer day. To the east, along the plateau of buff­
colored homogeneous sandstone, winding about in its plain surface,
the dark tortuous canyon of the Yampa River, and that of the
Green, can be seen, and also the axis of the Uinta Mountains.
Sierra Escalanta [sic] and the various peaks to which we have given names not yet laid down on the maps, and others were in sight. Looking down the river rapid after rapid met our view, and their roar was constantly in our ears. This ridge, for such we found it to be, is very narrow; at the eastern side the strata dip abruptly. The summit is quite level and the northwest side is abrupt and cut away by a huge gully. It is practically unclimbable. The sloping talus, at the foot, is cut by game trails. Upon the very summit of the ridge we found mountain sheep trails very abundant, and bears were found to have been there. These game tracks prove to us that somewhere there must be an easier approach to the summit than that selected. The reverberations of a distant gun told us that the "Emma Dean" was returning from the trip up the Yampa. The Major, Jones, Beaman, Hattan and Hillers were soon measuring their boat-lengths, stroke after stroke, with a regularity that showed practice as oarsmen. They had been absent 4 days, and their return was as that of old friends. We retraced our steps and at dusk were greeted by those who remained in camp.

A Day and Night Adventure in the Canyon of Lodore, as Written Home.

Being desirous of making a careful examination of the strata composing the ribbon cliffs, characteristic of this canyon, I started out at 8 o'clock with Clem Powell to assist me, that being his pleasure and my wish. With 4 of Andy's peculiar biscuits and a handful of sugar to render them palatable, a canteen of water and a gun, the latter being a necessary evil when already encumbered, we set out. The route proposed was to ascend the little gully that, starting from the Yampa River near its mouth, climbs the ridge one-half the way in a northwardly direction, then to ascend the ridge and make the measurements in passing down to the river on the other side; then, having finished our work, return by the same route.

Reaching the summit of the ridge we found difficulties attending its descent. Nowhere for 2 miles along could we find a possible way down; although it increased in height, the wall became less abrupt. This fact led us on further than our day's rations warranted. Reaching the summit of the wall, and what

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[^24]: The Sierra Escalante was a name applied to the lofty Yampa Plateau, as shown in F. V. Hayden's Atlas of Colorado, 1876. Escalante did not apply the name, but he traveled along its southern base in 1776, in making his way west to the crossing of Green River north of present Jensen.

[^25]: Evidently Steward wrote this account of his experience for home consumption and then copied it into his journal. See Clem Powell's journal for August 21, when Steward read to Clem this version of their experiences.
in passing down the river we had called "Alcove Creek Canyon," we began the descent by picking our way down a passage that, to all appearances, reached the water's edge. Two o'clock found us 1000 feet below the summit with 1000 feet of perpendicular wall beneath us. Here we each partook of a dry biscuit and felt provoked at ourselves that we had not provided more water, for our canteens were so soon empty. There ran the river only a thousand feet away, but that distance was vertical. We were standing on a shelf that afforded good footing when stepped with care. This shelf, made by the easy erosion of a thin bed of shale above the heavy bedded limestone, was continuous and the stratum gradually dipped in the direction the river ran. We could see that if we were able to follow it we should reach the water, whose refreshing qualities urged us to hasten. The narrowing of the shelf offered greater difficulties than were anticipated, and we traveled 2 miles and until 4 o'clock before the stratum that afforded us footing dipped beneath the water. Arriving there we refreshed ourselves with both outward and inward applications. Four-fifths of the day had been spent in getting to our work. We were now but about a mile from camp, but it was on the other side of a mountain ridge. There stood the cliffs, the strata of which had not yet been measured, as a single stratum had supplied us a way, and the sun dipping behind the opposite wall left them in the shade. At one point the summit of the wall seemed accessible. There we thought we found a place where we could climb to the summit and, in going, make our measurements. Pleased with the thought that we should be able to do our work and possibly get into camp, we began the ascent. Slowly we measured our course up the almost vertical walls, at an angle of about 60 degrees, until, having climbed 1800 feet, we found an impassible wall 200 feet high yet above us. Here the sun bade us good-night, and before we had given up all hopes and made up our minds to return to the river it was getting dark. Our situation was critical indeed. Clinging upon small foothills in the walls we surely could not remain all night, and unless we hurried down at a breakneck speed we should be held there until the moon rose, and luna could afford us very little light, as the wall on which we were clinging would be in the shade until she should pass the meridian. No time was to be lost—to make the river with all possible speed was our first hope. Down we crept, many times risking so much that, had we slipped, we would have been launched down the almost vertical cliffs hundreds of feet. Darkness reached the foot of the walls at the time we did. Our forlorn hope route would have been difficult in daylight. With further possibilities before us we struggled on through sagebrush and wild rose briers that we declared to have been made for our special torment on this particular occasion,
over rocks, through mud waist deep, and through the water, we worked our way. The rising moon, at 10 o'clock, found us hemmed in, the river on the right and the vertical wall on the left approaching at an acute angle, and the latter dipped its foot far beneath the waters. This wall forced a halt. All the way, since reaching the river, we had tried to collect sufficient material for a raft. A few bits of floodwood we had found. but nothing with which to hold them together. Camp was then about a quarter of a mile around the bend, and the camp fire still burned brightly, no doubt, as was the custom, to guide any who were out. The boys, we felt, were keeping a warm supper for us. The inducements held out by need of rest from excessive fatigue and empty stomachs were so great that a proposition to swim was made, but Clem being a poor swimmer, he protested. Another alternative presented itself. The dead stub of a cedar tree stood clinging in the scanty soil in a cleft. This, although small, we thought would be sufficiently buoyant to keep our heads above water. We pulled it from the rock, tied our shoes to it, tied our watches in our handkerchiefs around our necks and, launching our craft, floated out finely. We had not gone very far, however, when we heard the noise of what seemed to be a rapid. The moon afforded so little light that we could not foretell anything regarding what was in store. It too soon became painfully evident that the noise was caused by an angular cliff that jutted sharply into the rapid stream. To avoid this, if possible, we vigorously attempted to pull away, but were quickly drawn into the maelstrom. Little though it was, its effects were soon sufficiently felt. The effect was to drag us down, how far below the surface of the water we could not tell. The first thought that entered my mind was: "Is it possible that we have once passed through the terrible Canyon of Lodore, yet to be drowned between its walls?" That the little dead tree was not sufficiently buoyant to hold both our heads above the water had become evident. I remembered that Clem was a poor swimmer. The little stub might take him through safely, and as for me, I preferred to risk my safety to my muscle. I released my hold, knowing pretty well my capacity as a swimmer, my father's mill pond having been an early and long school in the art. I retained my presence of mind perfectly, and I knew what I must do. Steadily and strongly I struck for the surface, several times coming so near that I could distinguish the faint light of the moon above, but it quickly became dark and I knew that I had been drawn further beneath. Two or 3 times was this near approach to the surface repeated. I had abstained from breathing so long that it was torturesome in the extreme to even attempt to restrain; further resistance seemed impossible. In my agony my thoughts turned to the two at home—should they be left? Should the hus-
band and father have a nameless grave? Not from any lack in my efforts I thought. All this passed as a lightning flash. The time that I was beneath and in such agony seemed long, but just the instant that I felt I must give up, the light of the moon became visible and I knew that I was again approaching the surface. The undercurrent was still strong, but I had gained on it and at last was refreshed with one good long breath. Still in the grasp of the undercurrent produced by the whirlpool, I was again drawn down, this time for not so long a period, and by continued efforts I regained the surface, there remaining sufficiently long to draw 2 or 3 good breaths. Once more drawn beneath, I regained the surface with less difficulty, and this time the grasp upon me was relaxed. During neither of my brief stays above water had I caught a sight of Clem. The fear that he was lost but added to the horror I had felt. Imagine my joy when a hundred yards below me I saw him emerging from the shadow of the cliff. Shouting, I requested him to retard the raft all he could, and I struck out for it. I never swam with greater ease. Soon overtaking him I laid my hand on the improvised raft and we were soon in camp. Telling the boys only the pleasanter part of the story, we donned dry clothing and partook of their hospitable midnight supper.

* * * *

Next morning [July 1?] with the Major, I climbed the cliff, up its sloping side, to a point above the whirlpool and, dropping fragments of the dead trees, watched their passage around the jutting wall. The water, smooth at times, some floated on untroubled. Soon, however, an eddy would form and the whirling waters create a funnel that took all that came near, only releasing the grasp 20 rods down the stream.

July 3, [1871]. We pulled out into the somewhat enlarged river, wound around Echo Walls, doubled back for a mile and entered Whirlpool Canyon. We ran until 10 o’clock passing several rapids, none bad except the last, which we could not run. We let the boats down, one at a time, for half a mile, and stopped for dinner upon the right bank. We waited for the “Canonita,” which had remained behind for views. Pulled out at 2 o’clock and ran 3 rapids; then camped for the night on the right bank at the mouth of Brush [Bishop] Creek. The stream is a beautiful bubbling brook, cold and clear, that makes a rapid descent down its narrow canyon, the walls of which are not far from 1500 feet high. We spent a half hour chasing a flock of mountain sheep, but succeeded only in scaring them.

July 4. This national anniversary has been spent in camp very pleasantly. At dawn a salute was fired and all felt that
although we were away from civilization, the American eagle flapped her wings above, and that we should render honors in a suitable manner. Andy, the cook, having accompanied Professor Thompson and Jones on a climb out, Fred prepared a fine dinner. We had, in addition to our usual fare, some coffee-cake, dried apple pie, sugar syrup and a dessert of Gunther's candies that Fred had brought from Chicago.\footnote{The candies, rather, had been given to Dellenbaugh at Green River Station.}

July 5. Pulled out at 7:45, made 2 line portages and ran 3 bad rapids.\footnote{Beaman comments, "Not having [had] at hand the usual means of celebration, we awoke next morning in good working condition."} We then passed from Whirlpool Canyon at 9 o'clock. The last canyon is several miles long, has 6 bad rapids and several small ones. Let down by line 3 times. Spent the rest of the afternoon passing through Island Park. This is a fine valley about 10 miles across. The river is very wide and beset with many islands, among which the waters wind very leisurely, much in contrast with the whirlpools and rapids we have passed. We have camped among some cottonwood trees at the entrance of Craggy or Split Mountain Canyon.

July 6. Remained at the head of Craggy Canyon in camp, but spent the day in the cretaceous strata, obtaining some fine specimens and taking a good section. In the evening the Major cheered us with the information that his intention was to start for Uinta early in the morning, but in which direction he had not determined. This will give us an opportunity to send mail and there will be time to send a runner to Salt Lake for the mail we missed and get to the river at the mouth of the Uinta. He says he will either take a boat and make a hurried run to the point where the trail crosses, near the mouth of the Uinta River, and go up the latter stream to the Agency, about 40 miles, on foot, or take the trail that we found passing near camp and thus travel 80 miles. As the latter is uncertain, he thinks it better to take the "Dean" and its crew, with the exception of Fred. In the latter's place he will take Bishop, and Fred will stay with the "Nellie Powell."

July 7. Spent the day upon the left wall of the entrance of Craggy Canyon, or rather upon the mountain that the river has split from end to end. The summit is but a plateau, capped by the upper members of the carboniferous formation. They drop off abruptly to the north, commencing with a gentle roll, but soon become very abrupt and finally vertical at the base of the mountain, 3200 feet below. The view from the summit is beautiful and grand. To the west stretches the long narrow mountain, which seems no more than half a mile wide, and in shape appearing like a half [of] a huge cylinder, with one end abutting against...
the plateau. Either side is rounded off abruptly and the western end the same. This half cylinder is split its entire length by the canyon, the river having cut into the strata more than 3200 feet. To the north of us can be seen Sierra Escalanta, the cliffs of Whirlpool Canyon, Lodore and the Uinta Mountains, which stretch way off into the haze of the setting sun. The grandeur of the scene was less appreciated because of a shower of rain, not so heavy, however, but that the cedar trees sheltered us fairly well. The haze interfered with taking views and we left the apparatus for another attempt in the morning. Descending into camp we found that Fred had prepared another coffee-cake, which we pronounced first rate. Looking from the middle of the river toward the gates of the canyon, the rounded walls look like a rainbow, not only in contour but in colors, which are very bright.

July 8. Spent the day in taking a section. The amount of abrupt displacement here I find to be about 6000 feet; the cretaceous rocks in the valley are now horizontal. The lower rocks exposed in the canyon are carboniferous. I might have said in my writing of yesterday, that while we were upon the mountain, looking into the canyon, we could see rapid after rapid and watch the boys of the "Dean" making laborious portages—they lifted their boat out upon the rocks and snaked it by the falls. We could hear the Major's voice, "Now ready, heave ho," with a vigorous accent upon the last syllable, and yet we were more than a half mile above. All that labor we knew to be awaiting us.

July 9. Pulled out early and before doing a dozen strokes came in sight of a herd of mountain sheep, which afforded us amusement, to say the least, at target practice, for a short time, but with what result we could not tell. Whether any of the dozen shots fired from the rocking boat had taken effect or not was left for us to guess. The first rapid we ran with safety, but worked hard all day letting down over some ugly ones that followed. Camped upon the right side about a quarter of a mile above a fine little cave having its opening at the water's edge. Within this little nook, cut in the rocks by the incessant beating of the waves, the roars of the cataract that we have just labored through are rendered soft as a distant melody. The opening is approachable by climbing along a little shelf near the water's edge. The access is not easy. A huge rock, 20 feet high and entirely isolated, stands as sentinel at the mouth, its foot washed by the rapid waters. It remains where it rested after taking a fearful leap from the cragged top of the canyon, standing on end.

July 10. Pulled out at 1 o'clock and spent the forenoon taking views and geologizing; worked hard all the afternoon and landed at the head of a very bad rapid, which promises to
give us much trouble. The first rapid after dinner we found to be very dangerous because of sunken rocks, many of which we struck, but without damage aside from causing the boat to spring a few leaks. We entered the rapid with caution and proceeded with equal caution, intending to land below it and at the head of the next, upon the left side. Sunken rocks so beset the low waters along the left shore that we could make no landing. Before becoming aware of the extent of the danger, we found ourselves approaching the counterpart of the rapid we had just passed. Thumping and crashing through it we must go, for we could not reach the other shore. Boldly we struck out, and fortunately made a successful landing in the rapid just at a point where its descent increases. A little less fortunate, we must have been taken where a safe run through would have been doubtful.

July 11. By hard work we let down the boats over the rapid next before us, ran a short distance and stopped for dinner upon the right bank, on a sandbar so hot from the nearly vertical sun that Fred, who had not become destitute of shoes, was not able to step from the boat until he had been supplied with an extra pair Beaman happened to have. Pulled out again at 2 o'clock and ran a couple of miles due west, then turned suddenly to the south and ran 2 miles over some slight rapids. This run took us abruptly out of Craggy Canyon into the valley of the Uinta, just in time to see the setting sun drop beneath the horizon, now only a little elevated. Upon some time-worn walls, upon the right side, just by our camp, we find carved a number of figures, probably intended as a record of some event. The carving is rather skillful considering the rude stone implements that must have been used.

July 12. Pulled out at 8 o'clock, ran about 9 miles, and stopped for dinner beneath some large cottonwood trees. Spent the forenoon taking a section of the strata through which we passed during the day. Returning to camp at dusk we found some goose soup waiting for us. Cannot say that we liked it very much. During the afternoon some of the men thought they heard a gun-shot, but not being certain they took no further notice of it. Fred, sitting upon his blanket taking his good-night smoke, after we had retired, thought he saw a light in the west and awoke all. He was to share my blanket, and being so near awoke me first just in time to see the light die down. The others,

28 The shoes I was supplied with were well made and costly but were not adapted to this work. We had to wear shoes in wading, etc. They had been made on the Major's advice! Beaman had an extra pair of army brogans costing about one-seventh of what mine had, and he very kindly gave them to me. They stood the wear well but we all ran out of shoes finally in spite of much patch-up and we took to moccasins on land.—P.S.D.

29 Renamed during the expedition "Split Mountain Canyon," which name has been since established.
being slow to respond, felt convinced that imagination had helped his eyes. They ridiculed us and a discussion followed, more entertaining than sensible. They insisted that it must have been Venus, the evening star, that they had noticed just before they went to bed. Some thought it might have been a jack-o'-lantern, although we were in a dry, hot desert. About the time all had become still again and Morpheus had conquered, a snap of the limbs of one of the trees near which we were camped was heard. It disturbed no one with its noise, however, but me, as I lay awake. About the middle of the night the snapping became more frequent, which led me to watch the tree, thinking the weight of some wild animal was overtaxing it and that it was giving way in consequence. By the starlight I could see it beginning to droop, and before I could notify the boys the monstrous limb fell with a crash directly toward us. Being forewarned, in the scene that ensued, I did not take a hand, but the boys jumped out of their blankets in a lively manner. Blue streaks radiated from the scene of action and the flaps of the nether garments were horizontal. The scene was indeed ludicrous to me, silent looker on as I was. Fred, with courage warranted by a more dangerous situation, suddenly grabbed his rifle and awaited further demonstrations. The effect of cacti upon the bare feet of the fleeing ones brought them to a sudden consciousness of the state of affairs, and they soon learned what the cause of their fright was; recognized by them they joined me in laughter.

**July 13.** Just before finishing our breakfast we heard a shout, and looking up saw an Indian mounted upon a fine dark bay horse riding toward us, saying, "How, how." We all shook hands with him, gave him some breakfast, after which he told us by signs that his squaw was down the river a little way and that he would go and get her to let her see our "water ponies." He soon returned with her on the horse behind him, and they were much pleased to see us pull out into the stream. After passing around a long bend in the river, we met them again at their camp, and now the mystery of the light we had seen the night before was sufficiently explained. He gave us to understand that he was on his way to the Uinta Agency and wanted us to take him across the river, which we did. The motion of the boat frightened the squaw almost out of her wits. Their horses, of which they had 2, they drove into the river and with the persuasion of stones forced them to swim across. They seemed to have no idea of courtesy and left us without thanks. Ran on and landed 21 miles from our morning's camp. Passed several squaws and children upon the right bank, just before stopping; the boys gave them some "bac" (tobacco), which pleased them much. I cannot say that the Ute women are beautiful.
July 14. Broke camp early and pulled hard all day. Letters being in waiting for us, we thought to make the mouth of the Uinta River, if possible. Stopped for dinner in a little gully on the right bank, where there was not a breath of air stirring and the thermometer 100 degrees in the shade, we suffered much. Just at sunset we passed what we thought might be the mouth of a stream. We stopped, but found no current whatever, and seeing no boats we thought it must be the outlet of a little lake that we understood to be somewhere near. After firing signals, and getting no response, we floated on until dusk and stopped on the left bank for the night. The country for the last 2 days has been comparatively low, the formations being mostly disintegrated tertiary strata, all desolate in the extreme, except occasional places along the river where there are bunches of cottonwood trees. Back from the river, various distances, the bluffs rise from 300 to 500 feet, the higher portions, being level upon their summits, forming extended mesas, usually capped with some hard stratum. The strata beneath are only the sandy sediment so common in the lower deposits; wherever uncapped by protecting rocks they are merely knolls. I have been sick for the last 2 days, but nevertheless have pulled a steady oar, being so anxious to get news from the loved ones. Having now gone farther than we expected and found neither the crossing nor the boys who came ahead, I feel somewhat discouraged.

July 15. This morning we found ourselves but a few rods above the mouth of White River, which convinced us that we had passed the Uinta. In consequence of this Professor Thompson went on a trip of discovery, and returned in an hour to say that he had found the crossing just above what we had supposed was the outlet of a lake, and that we should have to pull back again and see if we could learn anything in regard to the boys and their boats. We pulled hard against the current and wind for a mile and a half, found tracks in the sand and the cinders of a camp-fire, but nothing that told us more, except that, written in the sand, evidently with the finger, were these words, “vide arbore.” In vain we searched the tree over. Here had been their camp-fire; scattered about were pieces of sacks and bits of paper. We could only content ourselves with awaiting results. Soon after, in the willows near by, I discovered an empty fruit can they had left. Wishing to save it as a cup for general use, I laid it in the fire to melt the top off, but noticed a paper within just in time to rescue and examine it. On it were these words, “Gone to Uinta; wait until we return.” This was short but significant. Just at night a whoop was heard, and over the sand and through the sagebrush came Bishop and Jones on horseback. The mail was soon distributed and all were made happy by good news from home.
From this time to August 5th the time was spent mostly in camp upon the left bank of Green River, at the old stage crossing and the site of Old Fort Robadeau.\textsuperscript{50} Professor Thompson and Beaman went to the Uinta Agency for a few days, the latter to take views and the Professor to see about rations that were to be brought down by Basor, the trader of the post. After their return 3 of us made a trip up White River on foot.

**Monday, July 24.** White River as I saw it: We took 5 days' rations (Bishop, Dellenbaugh and I), blankets and guns and started on foot up White River. Walked all day and accomplished about 20 miles. Struck the river early and found it quite dirty on account of recent rains. We saw a number of antelope and deer. One fine stag, particularly, with large and beautiful horns, attracted us. We followed an old Indian trail most of the way and left it upon the hill to descend into the valley to make camp beneath a low ledge.

**July 25.** Waded the river and left the trail upon the other side, making our way as best we could over hills and across gullies. The river, since leaving camp, has been bordered by walls, and we sometimes find difficulty in getting to it for water to serve us at dinner. Just at night, from the summit of the hill over which we passed, we saw, but a few miles away, what we recognized from the description, to be Goblin City, our destination; sometimes also called Fossil Canyon because of the number of fossil turtles found in the locality. We passed on and camped by the river, at the mouth of a little canyon, and there spent the night.

**July 26.** Walked up the canyon about 5 miles and climbed out only to determine nothing of any scientific value. Returned to camp, and while Fred was preparing dinner Bishop and I made a raft of some of the many poles cut by the beaver, so abundant along the banks, tied them with straps from our knapsacks and canteens, and reenforced the whole with willow wisps. Pulled out at 10 o'clock and floated until dark, reaching the mouth of the canyon of the river at our first night's camping place. Our run, we think, has been about 18 miles, along which portion of the river it is closely canyoned with walls from 300 to 600 feet high. The river's channel is very crooked and has very many small rapids, all of which we passed safely. With me at the bow, and Bishop at the stern (Fred taking topography in the meantime), with our poles we found the raft perfectly under control. I have been so ill as to hardly be able to stand upon the raft. Have had great difficulty in breathing and am worn out with my old army complaint.

\textsuperscript{50}Spelled Robidoux. It was only a "proposed" stage crossing on the road from Denver to Salt Lake. The building of the Union Pacific Railroad made it obsolete. See also Mr. Kelly's note, p. 286.
July 27. We started with the sun, ran within about 5 miles of the home camp, when the sun went down, and concluded to go on foot the rest of the way in the morning and at some future time finish the topographical sketches. We reached camp at 8:30 expecting to find that the Major had returned with more mail, but were disappointed. The river valley ran through today had been quite wide with much tillable land on either side. I do not think, however, that it can be planted with success without irrigation. To flood it would be difficult, if not impossible, as it is about 8 feet above the river level and the current in the river slow. It could perhaps be dammed far up in the canyon and the water thus made use of. Game is very abundant; mountain sheep plentiful in the canyon, and deer and antelope in the valley are without number. Beavers, geese and ducks are plentiful. We saw many bear tracks, and at one point we were so close upon bruin that the rain, just ceased, had not pitted his tracks.

Saturday, August 5, [1871]. After a 3 weeks’ stay at the mouth of the Uinta River we weighed anchor, with 60 days’ rations and full crew except the Major (he having gone with Hamblin, who has charge of a mule train which will deliver our rations along the river at different points). He hopes to find a way into the canyon at the mouth of the Dirty Devil [Frémont] River, Hamblin having failed in his attempt to find it. We expect to meet the Major a little below the mouth of Little White [Price] River, in about 30 days. If he fails to arrive we shall not see him until we reach the Dirty Devil. Have run about 25 miles of fine river, all but the first 5 miles walled occasionally on either side by particolored tertiary rocks varying between 100 and 150 feet high. Saw some deer this afternoon, but after hunting them on an island for half an hour and getting 4 or 5 shots at them on the run and in the distance, we concluded that we had enough jerked venison yet on hand, another instance of sour grapes. We watched the animals run over the hills at a speed greater than their safety demanded. We met the Indian who has followed us for the last 3 weeks and traded some sugar for a piece of his fresh venison. Our appetites were now sharper than when we permitted the deer to escape, earlier in the day. We left him and his squaw eating the “sug.” This is the Indian we met when we first entered the valley of the Uinta River. He cannot talk English very well, but we could understand this much, aside from what the Major and Professor Thompson learned at the Uinta Agency. He is the son of the chief of the White River Utes, upon White River, and his squaw, I judge is the daughter of some Indian of wealth, a chief, perhaps, judging from the richness of her dress. She was promised to another, but eloped with this, her preferred lover. They are now roving about from place to place to avoid lover number one, who is in search of them. They
left White River Agency and went up to Uinta, where they remained until their pursuer came, and then slipped away to avoid him. They came down to the mouth of the Uinta River where we were camped and remained as long as they dared, and then put off again down the Green River. Today we met them for the last time, I hope. His costume was complete for that of an Indian, although neither rich nor gaudy—leggings full length of the limbs made from red blankets, with a fin about 5 inches wide on the outside of each leg; moccasins without ornament and as high as his ankles, barely reaching the bottom of his leggings. His only under-garment was a "hickory" shirt that had not seen soap and water for many days. His hair was braided into 2 long queues with bits of red cloth tied about the ends and left hanging down a few inches. A profusion of paint completed his wardrobe. Her toilet was simple, but rich, for that of one of her race. Stockings I could not see that she wore, for if so they were covered up by her moccasins, which ran nearly to her knees and were tied with a garter of buckskin; her feet seemed well shaped and her ankles graceful. They certainly matched many of those thought by us to belong to her pale-faced superiors. Her dress was made of heavy cloth cut after a pattern difficult to describe; it was richly ornamented with beads of various colors. Her waist, not below the standard of nature in thickness, was encircled by a belt about 4 inches in width made of some kind of thick leather, probably of elkskin, and bordered upon each edge with a row of brass bangles about as large as a two cent or nickel piece, with 2 brass buckles and fringes of strips of buckskin finely cut. In making her toilet she had evidently used a large quantity of vermilion. It was put on in a manner satisfactory to herself and her brave, no doubt. It is almost needless to say that her complexion was dark and her eyes black.

We have camped upon an island of quite large dimensions, beneath some cottonwood trees. Around us are numerous clusters of trees felled by the beavers, which are so numerous that the splash of their plunges into the water is continually in our ears. After landing Bishop spent a half hour shooting at them, but although he killed several he failed to secure any.

We have imperceptibly left the valley of the Uinta and White River; the walls are becoming gradually higher until the river can be said to be within a canyon having cliffs about 400 feet high. Our dinner camp was upon the right bank at the foot of a cliff, which we ascended while dinner was being prepared. The surrounding country is very desolate. Upon the summit of the highest point near by we found two Indian graves, evidently of great age. Originally stone mounds of some little height, a foot or more, but now sunken nearly to the level of the soil, marked them. The stones are laid no doubt to protect the dead.
from molestation by wild beasts. Coyotes we often heard, but what they get to eat is a mystery. Lizards seem to be very numerous, but what all live on God only knows. If He does not provide for them they must find nutrition in the rocks and atmosphere, it would seem. But to return to the graves. In the construction of the mounds they seem to have selected stones, mostly rounded ones and not those from the ledges near by. This desolate place may have been selected because of its elevation; there are certainly no other inducements.

August 6. It being the day of rest, and not being in any particular hurry, we have remained in camp. The night was quite cold, the thermometer standing at about 40 degrees. It has been low for the last week. We were awakened several times by the splashing of beavers, which was kept up during the entire night. In daytime they are always quiet. It seems natural to be within canyon walls again. Professor Thompson, Bishop, Jones and I climbed out this afternoon to the summit of the canyon walls to take a view of the country; and such a view, desolate in every direction and not a sign of vegetation to be seen anywhere. While so surrounded this thought occurred to me—if no more beautiful prospect was in sight when Satan took Jesus to the top of the mountain and showed Him the kingdom of the earth and promised Him all if He would fall down and worship him, the temptation must not have been very great and the self denial in return very little indeed.

Sunday has been well observed in the matter of quietness at least. Fred has been isolated, having pitched his tent away from us; in consequence there have been no discussions. I should have said in my yesterday's notes, in connection with the graves, that they may be those of the Moquis tribes which evidently inhabited this section of the country at some time and were driven out many years ago. Their ruins are everywhere to be found where the country is rendered inhabitable by garden spots along the river. Their houses were built of stone, which is something unusual with Indian tribes. Several of their mills for grinding corn were found by the boys on their way to Uinta; their inscriptions were on the cliffs in many places. We found a fine group of them upon the lower sandstone cliffs at the mouth of Craggy Canyon. It is possible, however, they were all made by Indians belonging to some other tribe. The Moquis are far superior to the Utes, who call them "wisemen" when speaking of them. The Utes claim that their forefathers conquered and drove them away.

August 7. Rested very poorly on account of having been kept awake by the splashing of beavers. We left camp at 7:15, ran 17 miles and stopped for dinner upon the right bank beneath a 200 foot cliff. Professor Thompson, Bishop and I climbed out on
a high butte 1050 feet above the river. Upon it is a little mound left there by the Major's party of 2 years ago. I found a portion of the bed quite fossiliferous, abounding in fragments of ferns. The view from the summit of the butte is extremely desolate. Looking to the south we could see several ragged ridges, each being an inclined plateau cut into indescribable forms by the channels of the creeks, the surface somewhat resembling a specimen of halysites magnified many thousand times. Each of the tables is capped by a thin stratum of sandstone. Wherever the elements have cut through this stratum they have pushed on and torn out the soft shales beneath and stopped only when reaching some harder bed below. The river has been somewhat closely walled on one side or the other, the higher walls almost always being upon the outside of the bends. The rocks are arenaceous and argillaceous shales, mostly, and cut into fantastic forms upon the sides. Wherever a fragment of harder rock, from above, has lodged on the slopes it has protected the shales beneath, and now we see thousands of little columns studding any gentle slopes of the walls, from bottom to top, varying in size according to that of the capping fragment, and in height from one foot to 30 or 40; ragged bastions standing out, sometimes at regular intervals, and the walls seem like curtains with flute-like vertical folds. The river run over has been smooth and beautiful and is very shallow in places. We have had to shove our boats over sandbars 8 times today; the bars run, nearly always, the whole width of the river. They usually rise very gradually, but their down-stream termination is always abrupt. Many times we dragged our boats upon the level sand, learning nothing of the termination until we found ourselves at once in the deep water, sometimes jeered by the more fortunate members of the party. Some of the boys diverted themselves shooting at the beavers part of the afternoon. They succeeded in killing several but got only one. The body of the beaver seems to be so nearly of the same specific gravity as water that their plunge, when shot, takes them beneath the surface, where they remain. Professor Thompson shot one as it was crawling upon the shore, and so by making a quick landing he gained his game before the plunge to the water, which, though wounded, the animal was making for. Three feet in length from tip to tip, the body probably weighs 50 pounds; hind feet webbed and tail flat. Its teeth seem made for business. The habitations of the beavers here are in the banks; a hole enters at about the water line. The homes are usually covered with bunches of willows cut and brought there. As we passed one of their places this morning we could hear them chattering like a group of children. The sounds are as

31Steward jumped out into the shallow water at the shore, grasped the beaver around the middle and threw it into the bottom of the boat.—F.S.D.
soft as the voice of a child. Thermometer was 93 in the shade at 2 o'clock.

**August 8.** Arose early and pulled out at 7:45. Ran about 1 1/4 miles and stopped to take views and to geologize. Some of the boys tried beaver for breakfast, in the form of steak, and pronounced it passable. Some thought it would make good soup, and at noon tried it in that form, but a taste satisfied us that, as soup-timber, a beaver is not a success. I did not try it, but have a hide which I hope to turn to some account.

No sooner had we started again than we found ourselves aground, and had a hard pull indeed to get off. Ran about a quarter of a mile and was aground again. Waded and pulled the boat over the bar and ran another mile, and in an attempt to land grounded again. Ran across the channel to an island and stopped for dinner to allow me to study the geological position of the strata. I climbed the cliffs 600 feet high and took a section. Ten feet from the bottom of the cliff I found a little nook, somewhat out of the way, in the friable rock, just large enough for a person to squeeze into. Across the opening was laid a low wall, of little height and 4 feet in length, made of stones about as large as a brick, but varying in length. Who built this we can only guess. The work was skillfully done. It is possibly the work of some of the tribes of the region. The place is accessible only by way of the river and by climbing down an almost impassable gorge. The scenery has been fantastic and beautiful. The walls are cut into various forms. A slight touch of the imagination might liken them to cathedrals, castles, towers and buttressed forts. We ran only about 1 1/2 miles this afternoon, and stopped in order to take views. We ran a rapid, the first after leaving the dinner camp, which made today seem like old times to us. The walls are becoming higher and closer, and we think we are in what has been called the "Canyon of Desolation." Our camp is on the left side of the river in a grove of cottonwood trees and ash-leaved maples. Bats are flitting around me. These animals we have not seen before, and why they should have selected this desolate region is a mystery, for insects are few.

**August 9.** We went to sleep last night amid the che-chee-chee of katydids, and I was awakened from my dreams of bats by the booming of the morning gun, as I imagined, at 5 o'clock; and it took me some time to realize that it was not really that sound that had rung in my ears for 3 years, while a soldier, but merely the splash of a single beaver. We feel a marked change in the temperature of the nights since entering the canyon. We slept last night with but 2 blankets over us, having used 4 while in the valley. We have not had so much wind, and when the canyon walls become warm, during the day, the heat retained by them keeps the temperature somewhat high during the night.
The difference of temperature during the day and night is very much greater than that in the eastern states, averaging, say, about 75 degrees at noon and about half that at midnight. We have remained in camp all day, as the cloudy weather would not permit the photographer to take the views he desired before leaving here. Professor Thompson, Clem and I crossed the river and attempted to climb out. Spent 3 very hard hours in climbing up a little canyon, only to reach a 200 foot wall that stood in our way. We found it impossible to scale it, but were high enough to be reminded of the desolation that abounds. We could see the river doubling itself around the point where we camped. The channel of the stream approached itself, after the bend, within 500 feet. The channels are divided by a wall only 600 feet wide and very thin. The dryness of the scanty soil and of the atmosphere is shown by the fact that the trees that border the river are not found any farther away therefrom than their roots can run to reach the water. Thermometer 78 degrees and barometer 26.4.

August 10. We remained in camp during the forenoon to allow Beaman to take views for which he had been waiting. One taken from the summit of the ridge looking down both sides into the river is very fine. Left camp at 12 and ran 1 1/4 miles to a beautiful little canyon, where we stopped again for views. Pulled out at 2, after barometrical observations, and have run 10 1/2 miles. The river, mostly as still as a mill-pond, is wide and shallow, and we grounded twice and had to wade and pull the boats for some distance. This became monotonous, but we were relieved, for a distance, by a nice little rapid which we ran without first examining. It has been our usual custom to land and study all rapids before attempting to pass them. We have been running with the strike since noon; have found the river now encanyoned for certain, the walls being from 600 to 800 feet high. The walls are much cut up; lateral canyons come in often, from an eighth to a quarter of a mile apart. They receive side gullies, thus leaving the summits a continuation of acute serpentine ridges for some distance from the river. The compact argillaceous and bituminous shales seem to become more friable, which permits them to weather more easily. This renders the canyon walls less abrupt—the latter alone sometimes as low as to 45 degrees. The slopes are usually ragged, cut by gullies from 50 to 200 or 300 feet deep; sharp keels run from the summit and dip their feet beneath the river; these ridges are cut into fantastic pinnacles and into rigid masses and are everywhere present. Wherever they appear on these ridges the more friable parts are eroded, leaving mass-capped soft pinnacles in height from a few feet to 30, and usually much less in diameter than the diameter of the summit mass. One mass we noticed, quadrangular in form, about
4 by 4 feet and 15 feet high, rested upon compact argillaceous shale, about 12 inches in diameter and 2 feet high. This neck of shale, protected by the great sandstone mass above, must give way soon; protected though it is by the mass, the mass must soon leap 500 feet into the river before it can find a resting place. A similar feature is often to be seen upon the slopes of talus. In one little canyon, in particular, upon the left side of the river, masses of rock have lodged, and the soft shales below have eroded and left some 20 feet higher than the general slope. The sediments from the eroded cliffs, upon which they rest, have hardened sufficiently to support them. These resemble the stalagmites, in some cases, upon the floors of caves. Upon the right bank of the river, a mile above our camp, is a thin perpendicular wall about 800 feet high, running out far at the top; upon either side is a little canyon; about midway is a seam of incoherent sandstone which, at one point, has been eroded through, leaving a circular hole 10 feet in diameter. We are in camp upon the left bank of the river amid greasewood. Andy being sick, Bishop and Fred have prepared supper and I have just finished a hearty meal; and what is unusual, it has been a clean and well cooked one. We have run about 17 miles today; thermometer 98. Having encountered sand-bars, we have had an opportunity to study their origin and their various features. They always increase in height very gradually, as before stated, rising evenly and regularly until, approaching within a short distance of the surface of the water, they drop off very suddenly at the downstream termination. The height they reach is regulated in the following manner: The sand being carried up the long slope, the bank is elevated until it comes so near the surface that it renders the channel so shallow as to increase the rapidity of the current; this permits it to rise no further; then the particles of sand are rolled along until they fall over the lower margin of the ridge. Each grain is taken at a point upstream and moved along until it falls into deep water. It is thus that the bars keep moving down-stream. They are usually nearly all the way across the river.

August 11. The party remained in camp this morning for views, and Professor, Bishop and I climbed out, taking our course in the most promising direction, up a little lateral canyon, and began the ascent, which was very difficult. The objective point was 1800 feet high, but a mile away we saw another about 400 feet higher. Bishop concluded that he did not care to go any further, and we left him. The dip is between 4 and 5 degrees due north. Looking north toward the Uinta Mountains the synclinal axis is seen. The turtle beds are mostly eroded away. The Little Mountains, as seen from this point, are but gentle upheavals, very regular, their slopes equaling about 5 degrees,
forming a vast inclined plateau, much cut by the river and lateral canyons, with here and there isolated knobs. As we approached the summit of the mountain range we kept on loosing the upper beds. Upon an examination of the lower members of my last section, the sandstones and shales, I find the reptilian remains to be very abundant, for 600 feet. In some of the beds they are so plentiful as to form seams a few inches thick. Scales and fragmentary bones and teeth are found, but nothing of value as specimens. I find that we have run down 800 feet below the reptilian beds, where my last section terminated; first through green arenaceous shales, then heavily bedded sandstones, varying from compact to friable and soft, divided frequently by thin seams of blue, brownish and buff sandy shales and shaly sandstones. The lower members of the last section are becoming extensively arenaceous. The canyon walls have become very ragged, sloping usually about 45 degrees for from 1200 to 1400 feet, from $\frac{1}{2}$ to $\frac{3}{4}$ of a mile apart at their summits. They then jog back, very irregularly, and attain the full height of the plateau, where they are from 3 to 5 miles apart. We ran 3 rapids and found them quite bad on account of the low water and rocky bottom. At the first rapid we all grounded, the "Nellie" only rubbing her keel, however. The "Emma Dean" struck and hung upon a rock for some time, within the rapid, and then swung off safely, but not until the "Canonita" came along and frightened us all, fearing that she would run into the "Dean." She turned, however, in time to clear, but struck a rock and broke one of her ribs and smashed some of her planking. We got her ashore, made some cleats of an old broken oar that we had saved for such emergencies and soon repaired all damages. We pulled hard against the wind and made 5 miles. We have spread our blankets upon the left side of the river among several large cottonwood trees, mostly dead, amidst the roar of a little rapid that promises to give us trouble. It is evidently shallow and rocky.

**August 12.** The wind has rushed in gusts through the canyons, creaking the cottonwood trees and twisting them with force enough, one would think, to tear them from their footing. There has been no cessation since the first of its coming, and it has impeded our progress very much, wherever we have found a slow current. These winds are peculiar to the canyons; they are not constant, but come in gusts; or, as one might say, in successions of whirlwinds. We left camp at 7 o'clock and by dint of hard pulling and lifting got over the rapid that had lulled us to sleep, but to find another and still others in quick succession. We ran 6 miles and 8 rapids and stopped for dinner in a cottonwood grove upon the left bank. All of the rapids in this canyon so far are opposite the entrances of lateral canyons,
which bring down rocks and deposit vast moraines that have forced the current toward the opposite wall. Our camp is again just above a small rapid. It is intended to remain here over Sunday. The river, at all of the rapids, has been very narrow, generally not over a hundred feet; but the one that is now sounding in our ears is not over 50 feet in width.

Sunday, August 13. Ate an early breakfast and prepared for a climb. Started for a high peak and reached its foot after a half mile of hard travel. We passed all of the way at an angle of about 40 degrees. The surface of the country is unchanged. At the foot of the ridge we found several little springs—something not seen since leaving Winnie’s Grotto. Where they get their waters from is more than we can tell—probably from the melting of winter snows only.

Monday, August 14. Pulled out at 7:30 and shot through the 50 feet wide channel and ran a quarter of a mile as the earnest beginning of the new week’s work. Our first portage in the Canyon of Desolation was one to be remembered. For a quarter of a mile the water goes speeding over the slippery bottom, so shallow all of the time that we had to lift our boats over in many places. The channel is divided into 4 or 5 parts. The least promising one, that on the left, finally proved to be the best, although the choice was hardly worth considering. The second one we ran with little difficulty, and at number 3 we made a line portage. So far each crew had managed its own boat, but number 4 we found to be a fall of about 6 feet, with rocks besetting the channel. This required the entire force. By means of a hundred foot line at the bow and another at the stern, and with 2 men in the boats to prevent them from dashing against the rocks, we made the passage without unpacking, but not without much labor. We all got wet from top to toe, and ran 4½ miles before stopping for dinner, on the right bank beneath some cottonwood trees. Distortion of the cottonwood trees is a characteristic feature here. The heavy winds of the canyons seem to twist their trunk, when young, into shapes that they retain through life. Ash-leafed maples and willows are the only other kinds along the river; but we find upon the walls, which are not very abrupt, cedars, scrub pines and firs. The last 3 are not to be seen upon other than north slopes. Dinner is being prepared, and here we are in a group, presenting a scene more grotesque than beautiful. We have just come out of the water, and it has been the motive of each to divest himself of his dampened linens and hang them upon the fallen tree upon which I am sitting. Fred is an exception, sitting here singing “Put me in my little bed,” and keeping time with a stick with which he is beating the sand, but stopping occasionally to chuckle over Bishop’s Methodist oaths. The latter, sitting in his nether garments, with
shirt flaps spread to the sun, receives the sand that Fred is kicking up with his stick. Jack, with shirt and pants yet in place, is spread loosely upon the warm sand, and, to allow the sun to have an equal drying effect all around, shifts occasionally from side to side. The Professor is just below looking for a passage through the falls, and Jones, always ready with a mouthful of advice, is pointing out his "best plan." Andy, always anxious to supply the wants of the inner man, with hands in dough, is patiently waiting for the old Dutch oven to heat, in the meantime stoutly declaring it was not true that he laughed when Clem was thrown so violently into the water. The view of the falls from the dinner station is as a sea of foam and suggests the idea of calling it "Fret Water Falls."

We pulled out at 3 o'clock and ran 3/8 of a mile at a rapid rate, through one continuous rapid. Found another rapid half a mile farther, and after running a half of another rapid, have gone into camp. The total run has been about 6 miles. The rapids, however, have been very bad, but I think we were fortunate in encountering them in low water, as we can now wade and guide our boats around and among the large rocks.

August 15. We waited for views until 10 and then successfully ran the lower part of the rapid by which we are camped. We came down a quarter of a mile and found a bad fall. The descent is about 8 feet in 15 rods, and the water comes dashing down through masses of rocks as large as churches. By hanging onto the boats to keep them from crashing against the rocks, we let them down without unloading. Pulled out again and ran a very bad rapid, striking our keels occasionally, over a quarter of a mile of bad, rocky bottom; all this with strong current and headway so great that we could not jump out nor go ashore. In consequence we had to keep our boats straight and risk the result. Near the foot of the rapids we were finally stopped by dragging our keels and striking on the bottom, and Beaman came dashing along and would have run into us had we not been ready to ease the shock. We stopped for dinner at the foot of a very bad rapid. It is very long, shallow, swift and rocky. We waded the entire distance, in the middle of the river, up to our shoulders and in many places among boulders which divide the river bottom into an indefinite number of labyrinthine channels. The last was but a repetition of the former rapids, except that the rocks in the channel were larger. We are camped upon the sandy beach on the right side of the river, where we have found in the floodwood (drift wood) fragments of the "No Name," one of the Major's boats wrecked in the Canyon of Lodore 2 years ago. We have run only 4 miles today, but have worked like beavers and are tired enough to sleep without rocking. The roar of the rapids above is in our ears, but for the first time for
several days our camp is not within hearing distance of one yet to be met. A half mile ahead, nevertheless, I see a little canyon that comes in from the left. Such we have learned to consider to be pretty good evidences that business in earnest is awaiting us. It is not plain what purpose in nature this river serves but I can assert very truthfully that it was not made for navigation purposes. We have run down through the strata about 450 feet today, but found only a continuation of the sandstone. The harder shales that have capped the cliffs for so great a distance have not been seen since the camp of night before last.

**August 16.** Spent the day in camp, and thus gave ourselves an opportunity to copy up our work, to repair boats, etc. A light wind up the canyon brings the sounds of rapids, dispelling the delusion we had entertained last night that, because we could not hear them, there must have been some distance of quiet river.

**August 17.** Up with the lark, and after breakfast up the mountain. Professor Thompson, Jones and I forming the party, left camp at 7 and proceeded up the river for a mile, then worked our course up a little canyon for half a mile and struck out for the summit. We climbed for 3 hours at an average angle of about 40 degrees for a distance of 2500 feet, and reached the top of the ridge to find that by going ¾ of a mile to the west we could make 500 feet more, which we did. We found that the surface of the plateau, for about 15 miles in width, is cut all to pieces by creeks, now dry, and their little canyons, the appearance being that of a series of thin ridges besetting the borders of the river like a “Chevaux de frise,” as seen from the summit. On our way up we were met by mountain sheep, and having Bishop’s revolver I drew a bead on one with good effect, bringing him down, only to find that he was across a little canyon, and hence I could not reach my game. We returned to camp and ate a late dinner, after which the party pulled out and ran a rapid. Although it was very shallow, by backing our oars and going through slowly as possible, we passed without injury, but not without grounding several times. The next we found to be a bad fall, but let down through it with ropes, one boat at a time. The amount of fall is about 6 feet, in a little distance, and the channel is beset with rocks. We ran 2 more like the last, then a 50 [foot?] one, and are now in camp upon the sand 20 rods from the shore, upon the right bank. In running the last rapid we stove a small hole in the “Nell.” We passed the mouth of a small stream, about a quarter of a mile above camp, which we suppose to be what is known as Nine Mile Creek, that is said to pass not far from the Uinta Agency. It is a beautiful little brook with about 2 feet of water that comes bubbling rapidly down the valley and enters the river at our fourth rapid of today. Our run has been only about $3\frac{1}{4}$ miles.
August 18. Arose early today and did some cobbling, and
the boys declared that I had missed my calling. Remained in
camp until 10 for views, and then pulled out and ran a very
shallow rapid, then a difficult one, narrow and rocky. We ran
a third one, shallow but not very bad, and then made a very
hard portage through a fall with no channel whatever. Large
rocks were so close together that we could hardly get our boats
through. Most of the way we had to snake them empty over
the rocks. Pulled out again at 2 o’clock and ran a fine rapid,
and then, a half mile below, another. A little farther on we came
to a very bad fall and let our boats through with very great
difficulty, but fortunately with success. This last is about as
great a fall as we have found in this canyon, with a descent of
8 feet in about 14 rods. We have named it “Melvin Fall.”
Why so, the proposer did not say. The eighth and last fall
today is a very bad one, a half mile long, rocky and very shallow.
The “Canonita” and “Dean” ran it successfully, but our keel
struck a rocky[sic] just sufficiently to stop us, and there we
hung. By vigorous pulling we got the “Nellie” off, but not until
she had swung completely around, after which we came through
successfully. This I think is one of the most dangerous rapids
we have run, unless, perhaps, one we ran one morning in the
Canyon of Lodore. With a foot more water it would be very
nice, however. We are camped with a high sandbank thrown up
by the winds, which, by the way, is another result of the canyon
gusts. We are upon the left bank of the river, within hearing
distance of an apparently bad rapid. I have made my bed by
levelling off the sand, and thus ends a very wet day. The day’s
work sums up as follows: Rapids 8, 2 of them very bad port­
ages, and a run of less than 5 miles.

August 19. Pulled out at 7:30 and ran a very nice yet some­
what dangerous rapid; then another, shallow and very bad; still
another very bad one, the channel of which was wide and shallow,
with thousands of boulders just hidden beneath the surface. All
of these we dodged, seemingly by a miracle. Then the monotony
was interrupted by a pretty bad portage. We then ran another
rapid, and followed that by 2 line portages, or rather wading
portages. Took our midday meal upon the right bank amid
boulders and scrub-elders. Another bad fall is below us, high
mountains are around us, and a beautiful little creek enters the
river on the opposite side. After dinner we let the “Canonita”
down through the worst rapids we have passed in this canyon.
Beaman and Clem Powell stayed behind to get the photographic
apparatus in working order so as to take pictures of the 3 boats
while coming over the rapid. They made 3 exposures with fair
results. The particular curl of Bishop’s mustach[e] and his bare
legs were conspicuous. The rapid is about 20 rods long and fall
12 feet. We have called it "Chandler's Falls" and the little creek upon the opposite side "Chandler Creek" (following my wife's maiden name), and so they are placed upon the map. We then ran a mile and are now in camp on the right side of the river. After landing the Professor, Jones and I went down the river to prospect and found a very bad fall ahead—there are as many as 8 rapids in 2 miles. While coming back I was snapped at by a four-year-old rattlesnake, and returned the attack successfully. We have lost our reckoning entirely; or rather had done so, but since stopping Bishop has platted his topographical notes, and now I think we can see our way clear. The Professor is very much exercised, and still insists that there is no correspondence between the new map and the sketches of the previous trip. I have located every point passed by us for several days upon the chart, and we are now camped in a position corresponding exactly with the old map. Our day's run has been 4 bad rapids and 4 portages. The canyon walls are becoming more broken and recede further from the river. The average width of the canyon for the last 5 miles seems to be about a half mile. The bituminous shales are no more to be seen. The upper sandstones of my last section seem to have been susceptible to erosion and have weathered away, leaving about 800 or 1000 feet off the cliffs that bound the valley. Masses of rocks supported upon pillars are something of a characteristic, and are so abundant that they have become a prominent feature. The walls are so broken it has seemed that approach to the river could be made almost anywhere on foot or with pack trains; yet it is said that all attempts to reach the river here have failed. Notwithstanding these failures, we find evidence of presence of Indians and horses that have been in this valley since last winter. Camp fires and wigwam poles are abundant. One of their mills, or grinding stones, was found at our Friday night's camp. These mills are usually from 3 to 4 inches in thickness, and about 18 by 24 inches in breadth and length. For these they selected a coarse sandstone, and by abrasion depressed the surface at the center, and then with another stone the grist was ground. Directly southwest of Chandler's Falls, upon the back walls of a lateral canyon, is to be seen a natural bridge, exceeding in grandeur that across Cedar Creek in Virginia. It is situated about 1800 feet above the river, has a span of about 300 feet and a height of 150 feet. It is simply a wall, such as characterizes the canyon, and through it an immense archway has been eroded. Cedar trees beset the wall above, beneath, and in every little nook that can form lodgement for trees, the latter are found. Beaman has photo-

Note that the sketches (field notes), made on the 1869 trip were used for guides and comparison on the 1871 trip.

The tipi—characteristic, with slight variations, of all the Plains Indians.
graphed the bridge, and I probably shall have an opportunity to review it in times yet to come, when this trip shall be among the experiences that have passed.

August 20. Pulled out at 8 and made a portage; ran a rapid and camped three-quarters of a mile below last night's stop, at 10 o'clock, amid some cottonwood trees in the sand. By me is a large cottonwood log in the floodwood, 5 feet in diameter—the largest yet seen. This afternoon Professor, Clem and I climbed 1500 feet to the top of an isolated summit, just below camp. We find the walls to be gradually breaking down. We could see 7 rapids, some of which appeared to be easy and others bad.

August 21. Another sopping wet day. Pulled out at 7 and passed about 7 bad rapids, all line portages. Waded them all. Stopped for dinner upon the left bank after a run of 4 miles, and reached our last portage, a bad rapid, rocky and mostly waist deep. Rocks of all sizes, from mountains down to that of the fists, beset the current. A few drops of rain fell at noon. Pulled out again at 3 o'clock and ran a rapid, somewhat difficult; then another; still another; then ran a perfect beauty, the channel very deep and very narrow, and a fall of 6 feet. Made a very difficult portage to end the day's work, and camped upon the right bank on the sand, beneath a few straggling trees, at the head of another rapid. We have run 6½ miles and made 11 portages. The canyon walls have receded from the river about 3/4 of a mile and are beautifully cut into grand knobs and pinnacles.

August 22. Slept during the night blown over with sand. Ate a rather hearty breakfast, the labors of the canyon giving us the appetite of a hired man, as is said, and pulled out at 7 o'clock. Ran the rapid whose roar had sung us to sleep. Had some difficulty in another very shallow one. This rapid is a half mile long and in the form of a crescent; current very bad. We next made a line portage through a very rough place, and then part of another, and let down the rest of the way without much difficulty. Made a line portage at the next rapid, with great difficulty. At our next portage we found an old camping place of the Major's previous party. After dinner we ran a pretty rapid successfully, except that the "Emma Dean" struck a number of rocks by bad management. She partly filled with water, wetting some of our things but doing no other damage. Ran 2 more rapids and have camped on the right bank just above the worst we have come to on the river. The fall is about 15 feet in as many rods. We have run 5 miles, but only a small part of that since noon. When approaching our present camp we were surprised to see, within a little valley, a horse grazing. The thoughts of possible presence

₃₄When Steward says "waded," he means along the shallow edge working down the boats.—F.S.D.
of a party of Indians in our midst made us cautious. This is the country of the Utes, and the general hunting ground for the Mojaves as well as others. We understood that they were hostile, or at least not at peace with the whites, and the possibility of an enemy prompted us to take heed. We landed, but could find no human being; we judge the horse belongs to the Mojaves. Finding him with a broken leg, we conclude that he has been brought to this little valley to mend up. He is branded with a sign that indicates he may be owned by that tribe.

There is a marked change in the geology, which is well seen from this point. The canyon walls, which have heretofore been very high, have entirely disappeared. From this point the red sandstones are not to be seen for several miles. We have now passed down through the buff shales of camp number 2 and camp number 6. The presence of fossils has an inspiring effect upon the geologist; I enjoyed myself very much while collecting them.

August 23. Remained in camp this forenoon for views and to geologize. I took a section and made some fine collections. Our camp last night was situated between 2 points, about 2500 feet high. Since leaving them the country has been much lower. We think we are now out of the Canyon of Desolation. The strata gradually rising leads us also to think that we are now entering Coal Canyon. Being out of Desolation, as we think, it is safe to sum up: Total number of rapids 67; length of canyon about 65 miles. It commences so gradually that its beginning as a canyon is not noticeable—16 days run. We left camp at 2 o'clock this afternoon and made a very difficult portage, at the falls, and ran 2 very pretty rapids. We are camped upon the left bank at the outer angle of a very sharp bend. We think we can now place ourselves on the old map, which being the case, we are about 25 miles from the mouth of White River (Price's River).

August 24. I arose before the sun this morning and spent 2 hours before breakfast examining the rocks that we ran down through yesterday. Returned a little late, found something left for the inner man and quickly prepared the boat so that we were ready for the start before any of the other crews. Pulled out at 7; passed 2 little ripples, running them nicely. After about 3 miles we came to a very difficult portage, but we passed it successfully in half an hour—10 foot fall. We took the channel away from the rocks and by so doing avoided danger, but had to snake our boats the whole distance in shallow water. We then ran 3 rapids successfully, the first one a little difficult on

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35Navajos, not Mojaves. The Mojaves did not roam this far east and north. There was no particular cause for extra caution because neither the Navajos nor the Utes were hostile at this time.

36Renamed during the trip by Major Powell, "Gray Canyon."
account of sunken rocks. The next 2 were little beauties. At 10 we stopped to geologize, and found several seams of coal. Upon examination of the associated rocks I find that the beds are of cretaceous origin. I think this seam, and in fact all downstream from the change in dip at the mouth of the Canyon of Desolation, are of the same geological horizon.

While I was geologizing the boys made a very difficult portage, and then ran a rapid that was difficult on account of its rocky channel. We then ran 2 more fine rapids, each about a quarter of a mile in length. After dinner we ran 2 more rapids and then made a very difficult portage half a mile long. At this point the walls are vertical on both sides. In high water the passage would be more difficult, as there would be no slope at the foot of the cliff except where great masses of rocks have fallen. We then ran 2 fine rapids, and next a very dangerous one, but accomplished it successfully. At one point, when our boat dropped into a trough, she struck a rock with her keel with great force, but it being well aft no harm was done. Ran 2 more rapids, and closed our day’s work at half past 5. For 3 or 4 miles, after leaving our morning’s camp, we ran down the dip quite rapidly (6 degrees), but later the dip has become gradually less until the strata is now about horizontal. The canyon walls have been gaining in height a little so that they are now about 600 feet above the river. Day’s run has included 16 rapids, and estimated distance of 12 1/8 miles.

August 25. The larger part of the party remained in camp most of the forenoon. Professor, Jones, Bishop and I left camp early and climbed out. The view is grand, but there is little beauty. The summits of the peaks are about the same altitude, mostly sharp and entirely destitute of vegetation. We returned to camp for an early dinner and pulled out at 12 o’clock. Passed 9 rapids, 2 of them being portages. Some of them appeared easy, when seen from above, so that we did not stop to examine them. Our camp is on the bed of what is laid down on the maps as White’s River. It is a stream several hundred miles in length, I understand, and I presume the water might now be found in the bed before ascending far. Professor and Jones have just returned from a climb out. They found water only a quarter of a mile from the mouth of the river, in pools, but failed to reach the summit of the walls.

Saturday, August 26. It was suggested that if White’s River should rise during the night, as rivers in mountain regions sometimes do, it would place us in a very trying situation; but nothing of the kind happened, so we were permitted an early breakfast, after which we pulled out and ran a shallow rapid, a half mile long, the channel no more than 18 inches deep. Half a mile below we came to a short rapid, very rocky and the channel beset
by a moraine of rocks on the right-hand side, where it narrows down to about 100 feet. Ran a rough rapid, but struck our keel when dropping into a trough. Before the end of a mile we came to another. Saw 2 mountain sheep, and while the Professor was examining the valley the boys wasted about 20 shots at about a quarter of a mile distant. The third fall was narrow and rocky. Ran the rapid successfully, and then immediately ran a short one. The river is but 50 feet wide and very deep. Immediately below this is another still narrower, not over 30 feet in width. Ran it successfully. The waves tossed us like chaff in the wind; filled the standing room half full of water. Stopped to bail out and watch the other boats come through. Both shipped a little water, but otherwise came all right. Ran another very pretty rapid, and then came to a very pretty one just after we came in view of Coal Canyon. The next rapid was rendered difficult by the moraine of rocks brought in by a stream, now dry, on the left. Ran it with difficulty, the channel being very crooked. We ran another shallow rapid and then made a very difficult portage, half a mile long, with a fall of 20 feet; rocks very thick and channel so crooked that sometimes we could not have room to turn the boats. Reached the mouth of the canyon at 11:30, and landed upon the left bank to await the arrival of the Major, whom we expected to find here; the day of the meet being the 25th of August. We are to wait until the third of September, and if he does not come by that time, we shall know that he was not able to find the mouth of the Dirty Devil River, and will pull out, and he will try to meet us later. We shall not wait for him, however, at any intermediate point, but run for the mouth of the Paria River, and there to Kanab.

August 27. The morning sun is beginning to gild the crags and cathedral-like buttes that stand as silent sentinels watching over us. The fretting of the last fall that we passed fills our ears with its continuous roar. The boats are on the shore for repairs, keels upwards, drying out. Our worldly goods are in little piles beside them. The boys are yet lying as prisoners in the arms of Morpheus, with blankets spread on a few willow bushes laid on the sand. They are dreaming, maybe, of home, mothers, and Bishop, perhaps, of his sweetheart, Lena. Each one has his Winchester rifle by his side willing to trust to it for ready execution. Soon after breakfast Professor and I went down the river to reconnoitre, for a distance of 5 miles. The valley is literally covered with remains of Indian wigwams. The river, at the bend, is crossed by what is called the old Spanish trail. It was the crossing point also of Lieutenant [Captain] Gunnison several years ago, previous to his meeting death at the hands of the [Pahvant] Útes. It is more patronized by bands of Indians who cross in the fall and spring than by any living near.
The valley is low for several miles from the river, and the river bank on either side is easily approached. Evidences of the presence of Indians, last spring, are to be seen in the shape of moccasin tracks, horse tracks, etc.

August 28. Spent the forenoon calking our boats, putting a false rib in the "Nellie," made from a piece of an oak plank that has probably floated down from Green River City. It is the only piece of hardwood, except fragments of the "No Name," that we have seen. After supper Jack thought he would try fishing, and succeeded in making 3 catches, a total weight of 40 pounds. They were of a species we have not seen before, being about 15 inches in circumference, at the largest portion of the body, and 30 inches long, head 8 inches long, tail short, scales $\frac{3}{8}$ of an inch in diameter, fins rather large, mouth very large, no teeth. The larger one was killed and dressed, but for half an hour after the heart was taken out it kept up its pulsation at a rate of 20 beats to the minute. Just before dinner we were startled by 3 rifle shots about half a mile off, and knew by that signal that it was the Major who approached, and sent Clem to the flag that had been put at the foot of the island to inform him of our arrival. They found him apparently waiting for us, and informed him of our whereabouts, when he came immediately to camp and said that he had failed to see Jacob Hamblin and so made up a temporary train, including Fred Hamblin, Jacob's brother, and Jacob's son, and brought us sufficient rations to last us to the Crossing of the Fathers. They brought 300 pounds of flour and other substantials in proportion, on 7 mules and horses. They could not get where we were with their animals, so we dropped down 4 miles to them. Ran 2 rapids with but little difficulty; grounded several times and had to wade.

August 30 and 31. Spent 2 days in copying notes and writing letters.

Friday, Sept. 1, [1871]. Finished up our copying and writing letters and got Hamblin off. I went out and took a section this forenoon. We returned and found that the other boys had left us, so we pulled out and ran down to them, a mile below, where they had camped at the crossing point. This crossing is what is known as Spanish, or Gunnison Crossing, as stated. It was Gunnison's crossing point in 1853, a few [25] days before he was killed. We are now at the border of what is known as "Castle Valley," or, as it is called by the Indians, "Tompin-Contu-Weap." (Rock House Land, as I am told.)

September 2. Pulled out at 8 o'clock and have had a very nice run of 18 miles, over a very smooth river, having no rapids of any consequence. We find all through the valley, upon

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37The other diaries agree that this happened August 29.
eminences, numbers of wigwams, stone mills, lodge poles, etc. The Indians are possessed of this strange freak: The valley, for a quarter of a mile each side of the river, is a vast forest of cottonwood trees. They never camp among them but build their wigwams several rods away, upon some height very often; at one point we passed some low rocky hills and found that a family had left there a few hours before. Tracks of their horses and children were fresh on the shore, and the boughs upon which they had slept had not been exposed to the sun since pulled from the trees. The regular Indian crossing is at this point, and there [these?] people had probably only stopped one night. We have run down the strata several hundred feet, and are camped upon the left bank of the river beneath some small trees in the bushes.

September 3. We remained in camp all day to enable the Major to go to the west and study the ridge seen by him several days before he came to us. I spent the day geologizing about camp. Found several splendid fish teeth. In the afternoon we went back to the cliffs passed last night. On the way found very many grypheas and obtained about 50 excellent specimens. Found in the cliffs a very beautiful cave which I will describe at some future time. The Major made a fine collection of cretaceous fossils, ammonites and scaphites. Bishop and I found and brought with us some beautiful specimens of aragonite from the cave.

September 4. Pleasant most of the day, but we had a slight rain for a short time. Pulled out at 8 o'clock and have run 14 miles. Passed through 700 or 800 feet of strata, jurassic, I think, judging from the position and lithological characteristics we are now in, and have had a nice morning in what the former party called Stillwater Canyon, but it was unworthy of the name. The valley has been opened with occasional projections of cliffs, in no case more than 150 feet high. This afternoon, in a little branch of the river, we heard a bubbling, and upon examination found a number of springs gushing from the bed of the stream. One near us rises with great force and is as much as 8 inches in diameter, impregnated with soda. We are now encamped at the mouth of the San Rafael River, and toward the east we can see the Sierra La Salle [La Sal Mountains] looming up, beautiful and grand.

September 5. Not feeling very well I have remained in camp all day. Jones and the Major started quite early up the San Rafael River to take topography, with rations for a 2 days' trip, blankets for camping, etc. I find that we are on a general camping ground. Several acres of the higher land is literally covered with wigwam cities, etc. We find also that they have worked, evidently for a great length of time, raking [making] their

38Bishop describes it in some detail, in the previous volume of this Quarterly.
arrowheads. The material used is agate, or chalcedony of the finest quality.

**September 6.** Walked back this morning to Dellenbaugh's Butte, 4 miles. Found it to be almost exclusively composed of stratified gypsum, thinly bedded and of fine quality. Returned just in time for dinner and found that the Major and Jones had just returned. Collected many arrowheads this afternoon. The Major and I found half a peck of them, all very fine. Bishop and Clem Powell went out this afternoon to take topography at some buttes thought to be about 6 miles away, and have not returned up to this writing. They took observations with a base line of only 300 feet. With no minute point upon the butte the 300 feet of base was much too short; for with only 300 feet their error, though slight, might be great enough to throw their calculations way off. We have built a fire to light them and have made arrangements to watch during the night and keep the fire burning.

**September 7.** The boys not returning last night, we made preparations to go in search of them. The Major and Jack, with 2 days' rations, struck out at 5 o'clock in the direction of the butte. Professor, Fred and I left soon after, dropping down in our boats, provided with 2 days' rations, to a point 3 miles below camp, and started in the direction of the butte. The boys were 12 hours behind time in returning; the country is nothing but a vast desert, and water is an important item—we knew they had not enough to last them long, their rations consisting of but enough for one meal. We were cognizant of this fact. When a man's thirst becomes excessive he is likely to become bewildered and lose his way. Our only fear was that they had wandered in the wrong direction. We had not gone far before we heard a signal, and looking in that direction with our glasses saw Jack and the Major, who had just met the wanderers. After taking a rest and partaking of some food that we had brought, the story was soon told. The distance which they had estimated to be about 6 miles proved to be more than double that. They walked 8 hours before reaching the butte which they started for, and then found it impossible to climb, although from camp it appeared as if it could be approached from several points. They found vertical walls from 300 to 500 feet in height. After passing all around it they found the summit inaccessible. They discovered a butte a mile and a half farther east that they could ascend, and reached that point, but before they had taken their bearings and were ready to start on the return it was 6 o'clock. Their route had been mostly over barren rocks, much cut by gullies, from a depth of 30 or 40 feet to 500 feet, which all ran at right angles to their return route. Their scanty refreshments were disposed of at midday, and it
was now time, as told by their empty stomachs, for another taking in of rations; they had about 15 miles lying between them and camp. In one respect they had been very fortunate; just before their canteens became exhausted they came to a water pocket and refilled them; such supplies are very unusual in this dry country. It is very difficult to find water in condition for drinking under any circumstances, away from the river. Of these pockets they found several all of pure water. Slowly they began to retrace their steps, but darkness soon came on and, not feeling much like wasting their time, although exceedingly tired, with a few dried cedar snags they made a torch and with its light groped their way down through these rocky gullies. Nine o’clock found them in a little valley, a quarter of a mile wide, at the foot of a wall of rock. The sky was their only shelter, but the night was warm. They cut some willows for a bed and, although without blankets, slept comfortably and soundly. Five o’clock next morning they started for camp, and at 8 they were met by the Major and Jones. After the “Raven brought breakfast” they struck directly for the river. Retracing our own steps we then dropped down to them, and Fred was sent back to inform the boys and ask them to drop down the river to us. The weather has been very pleasant up to this time; as, in fact, it has been all the summer. We had no more than landed our boats and were wandering about the cliffs, which now have become of considerable height, enclosing the river to such an extent as worthy to be called a canyon, when it began to rain gently. Expecting that it would soon be over, we sheltered ourselves beneath overhanging rocks for a time. The rain soon began to fall heavily, and a whiff of wind driving the rain into our shelter, we were forced out, only to wander about, vainly seeking a better place, as our canvas shelters were well stored away under the hatches. Although wet to the skin, we enjoyed a sight that was grand indeed. From over the cliffs, that at first shelter us, came pouring down through every little crevice in the summit, 300 feet above, volumes of water, which often leaped from ledge to ledge, as if to escape the long plunge that was taken by less fortunate streams. Within half a mile there were 50, each colored by the sand brought with it. Some seemed as pure as the crystal, and others pink; some brownish and some deep umber-brown, drawn from the dark red sandstone beds upon which the rain fell. The colors were those of the exposed beds that form the uneven plateau. One of the most beautiful sights was a volume of water 6 feet in depth, and as wide, which came down from the cliff with a sudden plunge, and with one leap dashed into the river. The color was a beautiful bright umber, and a little after let fall from the height than it was partially dissipated [sic] and a beautiful brown
cloudy vapor eddying from the main volume went rolling into
the bosom of the river. The rain ceased a little and we prepared
our simple dinner. Just as we were through the remainder of
the party came, and at 2 o’clock we started on our way with the
stream. The river was now of a dark red color. We had not
proceeded far when the rain began to fall again, and until 5
o’clock we rowed in a drizzling rain. The thousand cataracts
that leaped to swell the river were beautiful; many of them
poured from the walls and soon became lost in spray and entirely
invisible, collecting again on some ledge and leaping again, only
to be lost in spray once more; to collect on some other ledge
they took their final leap. At one point a noise as of thunder
struck our ears. An immense volume of water came down a
gully and leaped 100 feet into the river with a sudden plunge.
At 5 o’clock we stopped for the night, and in the rain spread our
paulins to shelter us, and our blankets beneath to lie on. Warmed
by the bright fire our tempting supper refreshed us. Our camp
is now in a grove of scrub white oaks, the first we have seen
on the trip.

September 8. Spent the day in camp to permit Beaman to
take views, which he succeeded in doing, obtaining 11 fine nega-
tives. Fortunately we made our camp where we were protected
from the drizzling rain. This morning we found the weather
clear, and it has so remained all day, except toward night, when
clouds began to gather, foreboding a storm. We have spread
our paulins and are prepared, but some of the boys have trusted
in Providence.

September 9. It rained all night. About 10 the stillness of
the night was broken by the muttering of half a dozen of the
boys who, fretting about, were hunting for sticks and poles to
support their paulins. The sound of the driving of stakes echoed
in the canyon while the falling drops pelted musically on our
canvas. The rain did not cease until about 8 this morning, and
then we had every appearance of a pleasant day. Beaman, in
order to finish and pack the views taken yesterday, took time this
morning to do so, which detained us until 10 o’clock, except the
Major, who getting impatient, pulled out with the "Dean." At
11 another storm approached, and they stopped for us. Over-
taking them at 12, we landed for dinner. After dinner the sky
was clear and we pulled out again, only to meet another shower
which lasted all the afternoon. In the midst of the rain the
"Dean" got grounded and the crew only succeeded in getting
her so far upon the bar as to require the whole party, 10 in num-
ber, to get her off. At this point a beautiful sight presented it-
self. On each side, 20 rods above us, was a fall that leaped
from the summits of the walls. The waters lost themselves in
spray before descending far. Spanning the canyon, from the
base of one to the base of the other, leaving its feet, as it were, in the spray, sprang a most complete rainbow. While the bow spanned from foot to foot, its iris spanned the summits of the ephemeral merely, due to the shower. The river, since the first rain, has been very much roiled. By letting the water settle by night it becomes fairly clear, but this we can only do at our night camps. We have landed and drawn our shelters on the right bank of the river, on the middle stretch of the river, in what we have called "Bow Knot Bend."

September 10. We remained in camp until 10 o'clock, for views, and then ran until 12. Made about 5 miles, and stopped for dinner and to geologize upon the left bank of the river. Spent the forenoon studying the geology of the region. We have found in what seem to be triassic rocks, only conifers and some teeth of saurians. We were not able to identify the strata with any degree of positiveness. Our present camp is less than a quarter of a mile from that of last night. We have merely run the loop of the Bow Knot Bend. The summit of the walls is very much cut up and seems to have become more so as we have proceeded. They are now capped with the heavy-bedded buff and brown sandstones of the supposed triassic formation, and are between 200 and 300 feet high. The rock is jointed and, wherever the looser shales beneath have yielded, the former have parted and stand tottering, as it were, and form beautiful scenes. The prospect of reaching the summit of the walls seems not promising. Notwithstanding this, the Professor and Jones made the attempt this afternoon, and we were soon surprised to hear them shout almost directly overhead a thousand feet above us. They could see Gunnison's Butte and several points in Desolation Canyon, and were also quite certain they could see the outline of the Canyon of the Grand.

September 11. Pulled out at 7:30 and ran about 7 miles before dinner. Stopped early for views. Pulled out at 2 o'clock and ran about 3 miles and stopped for geology and views. Just as I had commenced my notes and Beaman had completed his first efforts, it began to rain, which put a stop to further work of the kind. We returned to the boats and found that the Professor had taken Andy in the "Nell" and pulled out to make a camp and have supper ready. We came later, in the rain, and overhauled them just as they were landing. Three miles above us was to be seen a headland which came projecting toward the river, with about a thousand foot front, looking much like an old monastery with its corner buttresses and an immense arched doorway. Near the right-hand came pouring down a little cataract with a fall of about 800 feet. The wall of the immense arch is about 10 feet thick, and had been heaved away from the main wall about 4 feet. From above comes
leaping another stream through the crevice, and at a double leap dashes into the gully below, down which it frets its way into the river. The canyon walls have receded some distance from the river, in many places, and are more broken than before. This is the point where the Major intended to separate the Canyon of Labyrinth and call the lower portion by another name; that is, the part extending from here to the junction of the Grand; but I think he has decided not to do so, as there is no natural division.

**September 12.** Very heavy dews the last 3 mornings. Pulled out at 7:30, ran 7 miles and stopped for dinner at 11. The Professor, Bishop, the Major and I climbed out upon the left side of the river, and the other boys proceeded. The entire scene has changed. The upper members of the triassic (?) formation are little seen. The walls have receded from the river and produce quite an open country for a distance. While out, I started away from the others, the Major saying that I would have time to go to a high butte and do some geological work. We seemed to misunderstand each other, and when I had gone several miles away I saw with my glasses that the party had left the knoll where they were and so I retraced my steps and hurried back, just in time to find that they had really left and were half a mile below. I walked along the bank, above the willows, which were very thick, until near the point where the party had stopped for dinner, upon the opposite side of the river. The bank was about 50 feet high and vertical. I shouted for them to come over with the boat, but could find no way to get down. In vain I tried for half an hour, the boys in the meantime looking for a place, but to fail [no avail ?]. By coming down stream half a mile further I succeeded, with much difficulty, but the foot of the wall attained, I was yet away from the river, which I could not reach without crawling over and under, with the greatest difficulty, the willows and rose bushes, thorns, etc.—the boys had to cut a way through before I could pass, so thick was the growth. After dinner Beaman stopped for views, and while looking around, several pieces of Moquis pottery were found, back upon some gravelly knolls. We have run 3 miles since noon, and are now camped upon the right bank, upon the outside of a strange bend. The river has not long been in its present channel. The old channel was as much as 2 miles longer, but it having doubled upon itself it has gradually cut through the high neck that was between the lapping parts. Beaman arrived at camp just in time to take a splendid view of these and the scenery around.

**September 13.** Turned out from under our dewy blankets and spread them to the sun. Beneath an overhanging rock, where the water comes dropping from the crevices, we found
a luxurious vegetation, a fern that is new to me and other plants, all very beautiful. Pulled out at 11 and ran 5 miles. Found the shales impregnated with salt. Stopped during the afternoon for views. We are camped under an overhanging cliff about 600 feet high. The walls are heavily coated with salt, from 1 to 4 inches in thickness, seemingly of very good quality. We have now run down into the carboniferous formations.

September 14. This morning, before I had shaken my blankets off, I discovered that the rocks overhead were quite fossiliferous. Spent the forenoon in collecting and obtained about a peck of fine specimens representing the coal measures. Pulled out at 1 o'clock and ran a short distance and stopped to geologize; in fact stopped several times. After running about 5 miles in all we camped on the right bank. A few hundred feet over our heads, under the cliffs, are some small stone houses about 3 feet in diameter and 3 feet high. Perhaps they are burial places. Up the river about 20 rods are the remains of 2 houses quite large. Here we find several pieces of pottery.

September 15. I arose at daybreak, and with Fred went up the river to examine the ruins. We found the houses about 10 by 12 feet in dimensions; usually oval in shape and walls still 6 feet high, in places. All were well laid, but they are mostly fallen. We found pottery quite abundant and many fragments of arrowheads. Professor Thompson being desirous of reaching the junction of the Grand and Green in time to take observations for longitude and latitude, we pulled out at 7 o'clock, leaving the 2 other boats, and made the distance in about 2 hours. After we left, the Major and Jones climbed out, and while they were gone Fred, Clem and Andy spent the time collecting arrowheads, pottery, etc. Very few complete arrowheads were found, the houses having been merely work-shops, as shown by the fragments. In a cavity in the rocks was found an entire earthen vessel, that will hold, I think, about 6 gallons. Its form is symmetrical, and shows splendid workmanship in every respect. In this was basket material tied up in coils. We find the Grand River to be about as large as the Green; very muddy at the present time.

September 16. Spent the day geologizing, and took a section of the strata, carboniferous, about 1500 feet. Obtained some fine fossils. In climbing to the summit I made my way leisurely upward wherever I could find a footing, for a long distance, when I reached a sheep trail and followed it up and around the rocks that I had great difficulty in ascending; and, as I could see by the tracks that they had just preceded me, I went on slowly up a slope, at one point for 30 feet, quite smooth, with only occasional small crevices, and that with great difficulty, and yet these animals must have scaled it. The trail is so much
cloudy vapor eddying from the main volume went rolling into the bosom of the river. The rain ceased a little and we prepared our simple dinner. Just as we were through the remainder of the party came, and at 2 o'clock we started on our way with the stream. The river was now of a dark red color. We had not proceeded far when the rain began to fall again, and until 5 o'clock we rowed in a drizzling rain. The thousand cataracts that leaped to swell the river were beautiful; many of them poured from the walls and soon became lost in spray and entirely invisible, collecting again on some ledge and leaping again, only to be lost in spray once more; to collect on some other ledge they took their final leap. At one point a noise as of thunder struck our ears. An immense volume of water came down a gully and leaped 100 feet into the river with a sudden plunge. At 5 o'clock we stopped for the night, and in the rain spread our paulins to shelter us, and our blankets beneath to lie on. Warmed by the bright fire our tempting supper refreshed us. Our camp is now in a grove of scrub white oaks, the first we have seen on the trip.

September 8. Spent the day in camp to permit Beaman to take views, which he succeeded in doing, obtaining 11 fine negatives. Fortunately we made our camp where we were protected from the drizzling rain. This morning we found the weather clear, and it has so remained all day, except toward night, when clouds began to gather, foreboding a storm. We have spread our paulins and are prepared, but some of the boys have trusted in Providence.

September 9. It rained all night. About 10 the stillness of the night was broken by the muttering of half a dozen of the boys who, fretting about, were hunting for sticks and poles to support their paulins. The sound of the driving of stakes echoed in the canyon while the falling drops peltered musically on our canvas. The rain did not cease until about 8 this morning, and then we had every appearance of a pleasant day. Beaman, in order to finish and pack the views taken yesterday, took time this morning to do so, which detained us until 10 o'clock, except the Major, who getting impatient, pulled out with the "Dean." At 11 another storm approached, and they stopped for us. Over-taking them at 12, we landed for dinner. After dinner the sky was clear and we pulled out again, only to meet another shower which lasted all the afternoon. In the midst of the rain the "Dean" got grounded and the crew only succeeded in getting her so far upon the bar as to require the whole party, 10 in number, to get her off. At this point a beautiful sight presented itself. On each side, 20 rods above us, was a fall that leaped from the summits of the walls. The waters lost themselves in spray before descending far. Spanning the canyon, from the
base of one to the base of the other, laving its feet, as it were, in the spray, sprang a most complete rainbow. While the bow spanned from foot to foot, its iris spanned the summits of the ephemeral merely, due to the shower. The river, since the first rain, has been very much roiled. By letting the water settle by night it becomes fairly clear, but this we can only do at our night camps. We have landed and drawn our shelters on the right bank of the river, on the middle stretch of the river, in what we have called "Bow Knot Bend."

September 10. We remained in camp until 10 o'clock, for views, and then ran until 12. Made about 5 miles, and stopped for dinner and to geologize upon the left bank of the river. Spent the forenoon studying the geology of the region. We have found in what seem to be triassic rocks, only conifers and some teeth of saurians. We were not able to identify the strata with any degree of positiveness. Our present camp is less than a quarter of a mile from that of last night. We have merely run the loop of the Bow Knot Bend. The summit of the walls is very much cut up and seems to have become more so as we have proceeded. They are now capped with the heavy-bedded buff and brown sandstones of the supposed triassic formation, and are between 200 and 300 feet high. The rock is jointed and, wherever the looser shales beneath have yielded, the former have parted and stand tottering, as it were, and form beautiful scenes. The prospect of reaching the summit of the walls seems not promising. Notwithstanding this, the Professor and Jones made the attempt this afternoon, and we were soon surprised to hear them shout almost directly overhead a thousand feet above us. They could see Gunnison's Butte and several points in Desolation Can[y]on, and were also quite certain they could see the outline of the Canyon of the Grand.

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worn as to show that it is an old one. When within about a
hundred feet of the top I found that the capping red sandstone
prevented further progress. The only feasible way was up
through a crevice 18 inches wide, where the massing rock had
separated a little. This I attempted, and made my way success­
fully. Climbed the whole vertical distance mainly by use of
my knees. The crevice was just narrow enough for me to sus­
tain my weight by my elbows and shoulders, draw my knees up
and across and, straightening, take my shoulders higher.

The view from the summit is grand in the extreme. The
rivers are both falling very fast. The water of the Grand has
backed up into the Green a little, the latter having fallen the
most. The Green is wide at the mouth and has overflowed the
banks some. We came down in our boat very well, but the
boys who came several hours after us got grounded very badly
and their boats are now grounded in 3 inches of water.

September 17. Up and away early. Got aboard the
"Canonita" and pulled up the Green for a mile to a gully, where
we struck for the top of the walls. Made the summit very easily—
1300 feet high. Reaching it, the gully terminates upon a level
plateau of the upper middle members of the carboniferous sand­
stone that occupies the summit. From this point, looking up the
sinuous Canyon of the Grand for several miles, until the eye
reaches the first serrated ridge caused by the dropping of the
upper members of the carboniferous strata, we look beyond and
see the last of the triassic sandstone in the form of tortuous
ridges with salient angles and prominent buttes from 1500 to
1800 feet high. Farther still in the dim hazy distance is [are]
to be seen jurassic and cretaceous hills, so blended in the haze
that the horizon is not defined. To the left the landscape is lost
in a chaos of eccentric freaks of erosion. Looking far in the
distance the plateau drops, apparently, for a few miles, sloping
gently until it reaches the triassic cliffs, when it takes an upward
leap, probably 1800 feet. On still farther, sufficiently near to
form a beautiful background, very well marked outlines are to
be seen the Sierra La Salle Mountains. To the right still we
can see rising boldly in the background the towering dome of
the Sierra Abajo. From our point of observation, stretching to
them, is a labyrinth of buttes that stud the plateau like tall trees
of a pine forest, many of them, evidently, at least 400 feet high.
Turning our eyes to the south our line of vision falls in the Canyon
of Cataracts, which we are soon to enter. The acute salient angles
of the sloping walls beset the river upon either side, turning
its course at each place and forcing it toward the opposite wall,
where it struggles through a narrow rocky channel. The roar
of its mad waters seems to warn us of its dangers. Turning a
little from the river, the pinnacles and needles of Sin-ave-to-
weep are to be seen stretching farther than the eye can reach, losing their identity beneath the noonday sun. "Sin-ave-to-weep," I am told, is a Ute name for the Supreme Being, or Great Spirit. According to their mythology, there were two reigning spirits named "Sin-ave." They were brothers; the elder is the good spirit and the younger the evil spirit. "To-weep" is their word for land, hence we have spirits land.

We enter these adamantine forests and are hedged in on every side with walls and with lines of needle-like buttes. Passing on we find park after park containing from 200 to 300 acres. They are like natural gardens, but wanting in one essential element—fertility. The dry sandy soil affords sustenance only for pines and cedars. Each of these park-like alcoves is drained by the deep gully to which their origin was due. Often, where the rocks are stripped of the sandy soil, little depressions have become eroded in the rock. In these water has collected, which is very pure and clear. Here, by the little water pocket, the Indians have collected material and made their arrowheads. We find chips and heads of beautiful red chalcedony, and fragments of their pottery promiscuously mingled therewith. From this we may infer that these people come here from time to time to prepare their arrows and stone implements. During the summer they hunt and attend their little patches of corn along the river banks. That their fields must have been small is evidenced by the scarcity of the soil. A few hills here and there must have comprised many of their patches.

September 18. Remained in camp and spent the day copying notes and labeling and packing fossils preparatory to sending them out at the first opportunity. Jones and the Major climbed out on the left side of the Colorado. They found an Indian trail, also evidences of camps there, made some time last summer. The Green River has fallen rapidly since our arrival here, and it has so changed its channel that the sandbank, on which we are stopping, 6 feet high, has been nearly cut away. One hundred feet of it has disappeared. The splash of masses falling into the river is very frequent, and quite disturbing during the night.

Tuesday, September 19. Sopping wet. The name "Cataract Canyon" is something more than mere words. We struck camp at 10 o'clock, having finished our work of platting, etc. Pulled out and floated down finely for several miles, flattering ourselves that we might have many miles of such water, but soon appreciated the application of the old proverb, "All is not gold that glitters." At 11 we struck a rapid and made a very difficult line portage, only to find another awaiting us. We made

99To-weep=land or country. Shin-oo-ave=coyote, which figures prominently in Ute mythology. See also Dr. Gregory's note, p. 84.
it, and then stopped for dinner upon the right bank beneath the first hackberry trees we have seen. Pulled out at 2 and ran a rapid. We then made a very difficult portage; another just below, and still another, until passing the eighth one; all portages so difficult, although beautiful, as to not warrant praise. Camped on the right bank on the sand just above one of the old camps of the Major’s previous party. Just above dinner camp we found some strange sulphur springs. At the beginning of this canyon, near the junction with the Grand, in one of my geological excursions, I followed up a little canyon, and there found a solution of the problem that had been troubling us. The rocks forming the canyon walls at that point had been elevated for a little distance back, as if the river for a few miles had split an anti-clynal [anticlinal] axis. It seemed in some places as if the lower soft strata had oozed out and let the foot of the walls move outward a little. Being separated by fracture from the main plateau, they had tipped. This oozing out process under pressure was the solution given by the Major. Tracing a fossiliferous stratum, composed almost entirely of a species of chaetes in nodular masses, the size of one’s head and less, I found that the pure limestone thus composed soon became lenticular masses of gypsum. Studying the matter further, I found that the bituminous shales of the carboniferous formation, lying just above, were largely composed of pyrites of iron. Wherever springs saturated these beds, the 12 foot stratum of carbonate of lime composed of chaetes had become gypsum. The cause of this metamorphosis is plain; the conversion into sulphate of lime and consequent absorption of water had thickened the stratum greatly and lifted the canyon walls in many places.

\* Chaetes, a type of fossil coral.

\* The geological explanation is inaccurate and no longer accepted. At this point Steward himself supplies a footnote:

Many years later (1903), in copying my diary, I am led to say that in reading over Major Powell’s report, I find an account of this little discovery as if made by him. While I do not wish to comment on many things stated by him, it is only proper to say that I found it necessary to take him to this canyon to convince him of the correctness of my theory; and later, when visiting me at my home, he asked me for my copies of the account of the discovery and my theory regarding the phenomenon. I will add that what the Major gives as an adventure up the crevices is another instance of appropriating; and still another is the discovery of the formations connected with the Henry Mountains, where I found that the lava from beneath had forced its way through the lower strata and created immense blisters. The Major has called them lacolites (laccoliths). I approached the foot of the mountains near enough to study them well, with my glasses, and notice the stratification, where one side of the so-called lacolites had been eroded away. I had difficulty in convincing him of my theory. He credits me, in his reports on the Henry Moun-
Wednesday, September 20. Captain Bishop and I spent the day in mapping the valley at this point for geological purposes. This work took us all day, and while doing it the boys made 2 portages. They took the "Nellie" through first, and, to make assurance doubly sure, tied the end of the rope to the stern. Now, my opinion is that a stern line is a nuisance, especially where the keel of the boat is acute. If the current takes the bow, and the stern is held a little in shore, and she gets the "bulge," the devil cannot hold her. That is precisely what happened. In a flash she was away from them, and on she went, leaping down the rapid, very nicely, however, and bounded into the eddy below. The vigor with which the boys ran was worthy of credit. Reaching her, they were all out of breath, but Jack plunged in and was soon aboard and soon had her safely landed.

September 21. Pulled out at 8 o'clock and ran 3 1/2 miles of fine river; then followed 6 rapids, all of which we ran easily. We then made a line portage, and ran the last half of one, and found it necessary to make another line portage. We ran the next rapid, and after that made another difficult portage, and ran the next two, both bad, and landed just above a very bad one, having run 5 1/4 miles. Pulled out after a dinner of half baked bread and coffee with the gravy that our half rations of meat afforded material for, and made a "hell of a portage," as someone termed it, that delayed us 2 1/2 hours, and then ran a short distance, only to come to a fall. We ran it, however, bad as it looked. The "Dean" struck a rock at the head and hung for a minute, careened almost enough to spill her crew into the river, and then, to our surprise, swung off the [rock], turned down stream head first and passed through without accident. We followed and struck our keel on the same rock, but slid over and went through. The "Canonita" followed and struck as we had, and came through as successfully as we. To sum up our afternoon's run: One and a quarter miles; we were handled extremely roughly. Camped on the sand on the left bank. The walls of the canyon up to this morning have sloped very much. Today they have been nearly vertical, 1200 feet high; canyon very narrow and channel filled with boulders. The day has been very warm—96 degrees in the shade. The difference between the wet and dry bulb thermometers at 2 o'clock was 31 degrees. This shows the great amount of evaporation. We soon became cold and suffered the day through.

The injustice to all of his scientific party of 1871 is pointed out in "The [Romance of the] Colorado River," by Dellenbaugh, page 386. They were ignored, but their reports published without credit.—J. F. Steward.

Compare, however, with Major Powell's remarks quoted in the discussion of Steward's diary.—W.C.D.
September 22. Another rehearsal of the many times told tale. Pulled out at 8 o'clock and ran a very pretty rapid, and landed at the head of a fall. The river at this point is narrow and deep, and its channel is filled full of rocks, all of very large dimensions. Spent 2 hours in getting over. We had to lift our boats over, at one point, for some distance, out of the water. We succeeded and made another portage as bad, and camped for dinner among boulders, beneath a hackberry tree. The last fall was quite dangerous for the boats. Several times, in order to get them past huge rocks that lie far out in the water, we had to pass a rope down stream, then shove the boat well out, and snub her to a tree after passing over the falls. The canyon walls have become nearly vertical, about 1800 feet high. The river is still very narrow, and floodwood upon the rocks indicates that the high water mark is over 30 feet above its present level. We rested only while eating our dinner, and began the afternoon's work by making a portage over a fall that had been singing to us during refreshments. It took us until half past 4 to finish it. Stove a hole in the "Dean" and likewise in the "Nellie," and went into camp early to make repairs. Bishop and I put 3 new false ribs in the "Nellie" and think she is now in as good shape as before. Below us is a bad fall.

Saturday, September 23. Pulled out early and began the work of the day by making a difficult portage. By hard work we got through and a short distance below made another portage, a very bad one. Pulled out and ran a half mile, and came to a fall, but ran it. Beaman tried to take an instantaneous view as we passed over, but failed on account of the current being so rapid as to take us down at a rate of about 15 miles per hour which was fast for slow plates. This fall, although very great and short, afforded no obstruction but waves, over which we rode pretty easily, although we were handled very roughly. We ran \( \frac{3}{4} \) of a mile and found 4 rapids; 3 more followed in quick succession, their united length being about \( \frac{3}{4} \) of a mile. We might have run the first 3 if we could have made a landing between the third and fourth. As we could not do this, we had to let [each crew get] its own boat down over the first 3 without aid. The last required all hands to each boat. Camped on the left bank within a little bay below the last fall. The canyon walls have become a little higher, and are now probably over 2000 feet. They are sometimes vertical, but often set back, where they are beset by pinnacles. Day’s run about \( 3\frac{3}{4} \) miles.

Sunday, September 24. Pulled out early and ran \( \frac{3}{4} \) of a mile, with a rapid current, to a very bad fall, the highest abrupt descent we have seen. The river drops off 6 feet at its first

42 This was quite an experiment with the wet plates of the period. "Fast" dry plates were as yet unknown.
effort. To let the boats down we found would be very difficult, and so that idea was abandoned as impractical. Our only resort was to hold the boats at the head until we could take the end of the line below and be ready to snub them in. When all was ready to let them take the leap alone, each was shoved out, after which it passed very nicely. The next 4 miles we found to be a succession of portages following each other rapidly. We have remained in camp this afternoon to repair boats, etc., and it is intended to remain here tomorrow to climb out for topography and to study the geology of the region. The canyon walls have become very much broken and ragged and much higher. We saw, this morning, the first cottonwood trees since entering this canyon; the only shrubbery so far has been hackberry. The cliffs have been destitute of the usual cedars and pines, except upon the plateau. We find the river banks all through this canyon so far, at least, to be a succession of immense moraines, the channel of the river often beset with huge masses of fallen rocks. The masses are so worn and fitted together by vibrations when they are covered by the high waters, their outlines always conform with each other; that is to say, they are to quite an extent fitted together by grinding. One mass, at least 50 feet in major dimension, resting upon smaller ones of limestone, shows the effect of the rushing waters. These small ones are worn into the masses, by the vibrations, nearly half their diameters. This last mass we estimate to weigh as much as 1080 tons; and notwithstanding its enormous weight it has been so shaken by the torrents that all this abrasion has been accomplished.

September 25. Up with the lark and at work with the boats long before breakfast, and finished well by 9 o'clock. Calked and pitched the “Nellie” and set her afloat, and found her to vie with the ducks in buoyancy. Major and Fred struck out for the canyon walls, and Beaman and Clem up “Gypsum Canyon,” so named by me because of my discoveries therein, for views. Professor and I, after our work on the boat, started in the same direction for geology. We followed up a gully for miles; found at its head a spring in the bituminous shales very cold and refreshing. We filled our canteens with the water, but found it anything but pleasant to the taste after becoming warm.

September 26. Pulled out at 8 o'clock and made a rather difficult portage. We then ran 2 rapids that followed this, and ran half of another and landed in an eddy; we then made a line portage the rest of the way, and after that ran a very hard rapid. We then ran a small and easy one, soon followed by another very difficult one, and landed on the right bank of the river for dinner, at the head of another that I think we can
run. We are, it seems to me, at a geological axis. The canyon walls, at this point, are something more than 3000 feet high, and nearly vertical in many places. In the fifth rapid we were handled pretty roughly by the heavy waves. We plunged through one, and left it with our forward standing room full of water, and mine, the aft, nearly the same, giving us all a terrible dousing. We pulled out after dinner and dallied along all the afternoon taking views. We came about 2\(\frac{1}{4}\) miles, but about 6\(\frac{3}{4}\) during the forenoon. In our afternoon's run we passed 3 easy rapids. We are now camped on the sand at the head of another rapid that proves so difficult as to require us to make a portage. At our camp we can see less of the sky than at any point on the river where we have been. After landing, several of us took a walk up a little canyon on this side of the river. The portals are very narrow, but it widens out as we proceed, and we find cottonwood trees and many springs of pure water. I found a beautiful fern, new to me. It is referable to the genus of Adiantum.

**September 27.** Spent the morning, while Beaman was taking views, in geologizing and completing my section. We pulled out at 11 o'clock, and made a portage to begin with; then made an easy rapid, and stopped for dinner upon the left bank. After this we ran a mile and made a portage, and then ran several fine rapids and ended our day's work, of 9 miles run, by making a very bad portage. The river is narrow and rocky, and falls 15 feet in a very short distance. The canyon walls have been more broken and a little lower than before; the dip is now about south, and we are passing down with it. The walls have not averaged any more than 2800 feet high today, I think.

**September 28.** We waited impatiently for Beaman to finish some negatives while the Major paddled on. We got off at 9 o'clock, ran 2 rapids and then found the Major waiting at the head of another. After landing his boat he changed his mind about going to "Millecrag Bend," as he called it, to stopping here and spending the time in climbing out, while we were left to let the boats down over the fall. Since we landed he and the Professor started up the gully and left me in charge of letting the boats over. We made the difficult portage all right, and just got through in time to take the dinner for which the labor had whetted our appetites. After this I went up the gully for a few miles and found a beautiful little creek that came bubbling down on the rocks as clear as crystal, and cold. I had not proceeded far when I met the Professor and the Major, who had failed to make the ascent, and we returned with the intention of pulling out with the renewed intention of going to Millecrag Bend tonight. We reached camp and found that Andy had just got a pot of beans over the fire for supper. We are waiting
to take supper here and make the run afterwards. Pulled out after our 5 o'clock supper, and ran the first rapid that presented itself very nicely, although it was a rather rough one. The next one, just below, we found to be a perfect torrent, although not over 12 or 15 feet of fall. It was so rocky that we could not run it because we could not make an entrance. We landed upon the left side to reconnoitre, and found the only way was to pull out into the current, rapid as it was, and strike a stony island landing where the river parted, and then, through a few rods between rocks at the entrance, run the rest. This we all did successfully, with the exception of the "Canonita," which landed broadside upon the rocks, but without damage other than being bumped quite hard. Now came the most difficult part of the work. The current is extremely strong, the rate being, as seems to me, as much as 15 miles an hour. The only passage was near the shore, between it and a large rock; then the current could take us with great force to the left wall where, should we strike, it would make matches of our boats. Notwithstanding this, the vertical walls of the other side compelled us to run the remaining distance. The attempt might as well be made, we thought, one time as another, as there was no alternative. The "Dean" struck out, passing the chute all right; although the Major's call, "Hard on the right," was well heeded and the command vigorously obeyed, she went rapidly toward the left wall. We held our breath awaiting the result, just as they passed the angle of the wall which encroached upon the current that we were about to take. They were soon so near that they could do no more with their oars, so dropped them; the boat just cleared the wall. We came next, but beginning our strokes with the right oar so quickly, after passing the upper rock, we cleared the wall by at least 50 feet. The "Canonita" did nearly as well, and we all felt relieved. The Major declared that, remembering this place, he had dreaded it more than any other. We came a mile further in the rapid water to the head of a fall. Darkness approaching, we stopped for the night. A huge boulder that I think will weigh at least 400 tons has dropped from the cliffs, and the repeated high waters have worn it, with its associates, to a nicely rounded shape, leaving one end projecting sufficiently far to shelter us from the threatening rain. Have leveled off the sand and spread our blankets, hoping for a refreshing sleep so as to be well ready to do the work of the morrow. The moon has crept to the summit of the wall as if with caution, and is peering into the canyon, clothing all in a silvery light, and the clouds which she touches in her glances reflect into the canyon, rendering the scene very beautiful.

43The first expedition traversed this part of the canyon July 28, 1869. See the journals of Bradley, Sumner, and Powell in vol. XV of this Quarterly.
September 29. The prospective good rest was not to be enjoyed by us. Soon after retiring the wind set the sand in motion, rendering sleep uncertain and good rest impossible. While breakfast was being prepared rain set in, and for 2 hours we were delayed. The streams that came leaping over the canyon walls were very beautiful, being colored by the strata that they drain. We pulled out at 8 and ran 4 rapids, and landed at Millecrag Bend upon the left bank. Just by us, in the sandstone beds that here form the principal cliffs, are 2 small caves high enough for us to stand erect in, and entering 20 feet into the rocks. These seem to have been occupied by the natives at some time, as we find across the entrance, walls laid. In this cave are bits of bones and corn cobs. I infer that these caves are only occupied as stopping places during the winter season, or possibly used as caches. The walls are all covered with soot, showing that they had their fires within.

September 30. We were up and ready for the start of this morning before the sun had touched the mountain tops. We ran a rapid, and then let down through the upper portion of another one, and ran the rest of it. We then ran 2 more, and arrived at the mouth of the Dirty Devil River at 8 o'clock. Two miles above it we found some fine springs upon the left bank of the river, just above the water line, which were strongly impregnated with sulphur and with temperature quite high. We find the Dirty Devil [Fremont] River to be worthy the name given it. The water is strongly impregnated with sulphur and full of sediment. The river drains what is supposed to be the triassic plateau, and the water is about the same color as the rocks. Just where we are camped we have found pieces of pottery and arrowheads and a Moquis mill, all of which show that we have been preceded many times. Just below us are the remains of an old camp fire, made by the Major's previous party. One lost a jack knife, which I found and, in accordance with the Major's wish, gave it to him to serve as a memento of his prior trip. The Major and Professor have been looking for an entrance into this valley, which they report to have found evidences of in the form of an Indian trail coming down the Colorado.

Sunday, October 1, [1871]. The day has been variously spent by the members of the party. We found a place beneath the rocks that had fallen from the cliff just below the mouth of the Dirty Devil River, and in it we buried the "Canonita," where she will remain until we come back to explore this section of country in the spring. We finished the job at 9 o'clock, and the Professor, Bishop and I pulled out and ran down the river to the point where the gully and the Indian trail enter the canyon, and then climbed out. The other boys remained in camp, and when the Major and Jones returned all came down to the point where our
boat was tied. Seven of them, with the cargo of the "Canonita" beside[s], were aboard. Going with the Professor and Bishop up that canyon 4 miles, we found a place that I thought I could climb out. They, thinking the attempt could not be successfully made, went on to look for a better one. I succeeded very nicely, and was paid for the climb, reaching the summit 1950 feet (200 feet higher than the Professor and Bishop attained). The finest sight I have seen came in view. The summit is cut up, by enlarged fissures, in forms like the masses of combs in a bee-hive. South and southwest of me was to be seen a fine range of mountains not more than 6 or 8 miles away; their summits reached far up, but their slopes dip at an angle of 45 degrees beneath the carboniferous rocks.  

October 2. Pulled out at 8 o'clock, Clem and Andy in our boat. Ran 3½ miles and found some Moquis ruins upon the left bank; one house about 12 by 20 feet. The walls of the ruins, 5 houses in number, stand a few feet high in many places. There are no evidences of doors; the kiva is between the main building and an ell, its roof having fallen in. Around this we found immense numbers of fragments of pottery and arrowheads, which indicate long occupation. The condition of the walls seems to indicate that the rooms have been vacant for an immensely long time. The arrowheads are mostly made of beautiful limpid rose quartz and moss agate. On the rocks, all about the cliffs, are hieroglyphics in large numbers. We found some beautiful pieces of pottery which show much skill in manufacture. Pulled out at 9 o'clock, and ran 3½ miles, and are now camped upon the left bank of the river at some more ruins. Our day's run has been 17 miles. We have passed 11 rapids, none of them very bad, but usually not pleasant ones because of the shallowness of the water. We grounded very badly today and had to wade for a quarter of a mile at one point. Beneath the cliffs, at both the Moquis hamlets, we found many houses only to be reached by ladders, or something of the kind. I am not well.

October 3. Slept cold and but little. Up and off at 8 o'clock; ran 15 miles and stopped for dinner upon the left bank. The canyon has been very wide, often half a mile, and the walls very low, usually from 150 to 400 feet. In very few places do they approach the river on both sides at the same point. We have passed a great deal of scrub oak timber, the first we have seen since entering the Colorado. Pulled out again at 2 o'clock and have come 11 miles, and are now camped upon the left side, upon the bank 200 yards from the river. The stream has become wider, and is now on an average about 600 feet, sometimes

44See the geological notes in Powell's report on the geology of the Uinta Mountains, published in 1876.
as much as a thousand feet wide. We have run, in all, 12 rapids; none has given us any trouble. All of them were shallow. The average width of the canyon has been a half mile, with walls quite low. At our camp the high water mark is somewhat below us, and the evidences are that the river sometimes spreads to the valley's limits. After landing, the Professor, the Major and I climbed the eminences, about 400 feet, to get a view of the country, but found nothing to observe but barren rocks. About 5 miles down the river we see a gentle fold, and upon close examination find that we are approaching a synclinal axis. Looking up the northern stretch of the river, up the wide canyon, we have a fine view of the Henry Mountains that we have passed; they loom up above the horizon about 10 miles away, probably 8000 or 9000 feet higher than where we stand. Their black angular summits receive the last rays of the sun, telling us that though we have not seen him for an hour he is still radiant.

Wednesday, October 4. Pulled out at 7:30 and ran 5 miles of fine river; ran several small rapids, but none of them bad enough to give us any trouble. We then came to the worst river we have seen; the stream widens out to about ¾ of a mile and is extremely shallow. The rocky bottom is as smooth as glass and in many places cut into it are deep crevices, close together—from 3 to 12 inches apart by about as wide—wavy in outline. For 5 miles we dragged over this kind of bottom, the keel striking most of the way. The boat would sometimes catch upon a point, and then swing around into the rapid current among immense rocks, thus endangering the hull at every thump. We struggled hard to get over one very bad place, and camped for dinner. One mile before dinner we struck a rock and stove a hole in the "Nellie" of so bad a nature that one of us had to bail all the time to keep her afloat. At noon we unloaded and repaired the boat, putting in a false rib and soon made her right. Pulled out at 2 o'clock, and have had a pretty good river most of the way. The canyon has narrowed to a moderate width, which has given us more water. Five miles below the dinner camp we came to an anti-clynal axis, the canyon walls there rising to about 1200 feet. We ended our tenth mile, and landed upon the right bank among the stones. I am still ill.

October 5. We slept last night under the cliff in a little niche. Pulled out at 8 o'clock this morning and ran 14 miles, passing the mouth of the San Juan River, at the topographer's "Twelve Mile Station," and stopped for dinner upon the left bank of the river at the entrance of what was called by the Major "Music Temple." This is somewhat similar to Winnie's Grotto, but much larger, being about a quarter of a mile long and much wider, but not cut so deeply into the rocks. It is an eroded space into the upper member of the triassic and other homogeneous
sandstones. From the few seams come little streams of salty water that bathe the roots of thousands of ferns and honeysuckle. Several pools are in this everlasting shade, and the large cottonwood trees find nourishment in the sandy soil. The Professor and Major spent an hour and a half climbing out while we ran several rapids, some of them a little difficult. We have landed upon the left side on the sand, having run about 11 miles this afternoon.

October 6. Pulled out at 7:45 and ran 13 miles before dinner. Passed several rapids, one of which gave us considerable trouble. In passing the upper portion the eddy carried us over to the rocky bar and onto it before we could recover. We finally pulled through and congratulated ourselves that all was well simply because all ended well. Stopped for dinner upon the right bank on a broad sandstone ledge beneath a high wall where only the rising and setting sun ever strikes. About 3 miles after starting we saw that there had recently been a fire along the willow and oak trees, and, landing, found tracks of horses and men, both being shod in the most approved style. Here were evidences that white men had been at this place within a few days, which gave us hope that Hamblin was somewhere waiting for us, and that perhaps it was he who, fearing from our long delay, had come up the river from the crossing in search of us. That his presence somewhere is probable gives us a new impulse, and our dinner being finished, all hands, eager to find him and obtain letters and grub, start out. For the last 25 days our rations have been short; we find our sugar and bacon falling short. The Major directed us to go lightly on them, and so for the time mentioned about \( \frac{1}{2} \) rations of these have been served. Of beans we have one mess; the rice was exhausted; of meat we have \( \frac{1}{4} \) rations, for about 2 messes; dried apples not any. In fine (\text{?}), besides what I have named, 2 days' rations of flour was all that our larder contained. That we had fears that something might befall us was not strange. That the Indians might have interfered with Hamblin's access to the river occurred to us, and the thousand and one other things suggested themselves to the cautious. We had dallied along very slowly, which today gave us occasion to feel hard toward the Major,\(^45\) as if he were trifling with our very lives. However, all ended well. We had run after dinner for about 4 miles when we saw upon the right bank a pole with a cloth hung upon it, and about the same time we saw it someone fired a signal to indicate his presence. Landing, we found Mr. Dodge [Captain Pardyn Dodds] who left Uinta with the Major and a couple of miners who were

\textit{\footnotesize{Steward was the only one of the party who had these apprehensions and entertained hard feelings so far as I know. The Major and the rest of us wanted to climb Navajo Mountain but Steward's protests prevented.—F.S.D.}}}
prospecting, and had come down with Hamblin's train, as they considered it unsafe for a small party to come alone at this time. Hamblin had got tired of waiting and the other members of the party, supposing we were lost, had concluded to cash [cache] the rations and leave for Kanab next Sunday. Letters were waiting for us, \(^{46}\) and papers in abundance. All that had been sent to us from the start were here. It was a great relief to find a supply of provisions. Had we not found them there is no knowing what the result might have been. It is 80 miles to Kanab, the nearest settlement, and the trail is unknown to us. There are few fish in the river and no game in this desert.

**Friday, October 13.** Since writing my last we have remained here in camp. We had no sooner landed than the Major seemed to be in a great hurry to get on his way to Salt Lake, and the next 2 days were spent by all hands in preparing things which were to be sent out. It took 2 days of diligent work, and when it was announced to the Major that our work would be finished, he declared that he would start in the morning. Not a letter had been written, nor was he going to allow us time. The Professor went to him and suggested that it was not proper treatment toward us. Had it not been for the Professor's interference no one of us would have been able to let our people know of our welfare. This I cannot help but think improper disregard of our wishes. We got the Major off on Tuesday. Since that time I have been confined to my blankets and bed of willow branches. I have not been able to stand, nor have I been able to take food. An Indian chief, Agua Grande, and his son came to our camp. \(^{47}\) We heard a shout upon the cliff and there was an Indian standing. This shout seemed to be a signal indicating that he wished to approach. The boys beckoned for him to come, and he went back to where his father was, when both came. They remained with us for several days. The chief wanted to take me on his mule to the Mormon settlement. He was quite anxious, and his sympathy for me seemed to be great. On Wednesday, 4 of the boys went up the river in boats for topography and views; the river is very quiet above for several miles.

**October 14.** More Indians came in — Agua Grande party—and some seemed to be fine physical specimens of the Indian race and very intelligent. There were 8 of the party, one a squaw. The boys pulled out at 4 o'clock, leaving the Indians occupying our old camp. They saluted us as we pulled from the shore. My condition is such that it is necessary to prepare a place for me on the deck of a boat, with a bit of rope to cling

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\(^{46}\)Clem Powell writes, "Steward received bad news from home stating that his wife was very sick; was not expected to live. He is worried."

\(^{47}\)This was the first party to come north of the Colorado since the "Navajo" war.—F.S.D.
to. We ran 3 miles, passing the old Crossing of the Fathers about midway, and camped upon the left bank. A bed was made for me and I [was] there placed.

**October 15.** I spent the worst night of my life, I think, and have remained in bed all day. Have felt a little better since 8 o'clock.

**October 19.** Since last writing I have been confined to my blankets, hardly being able to move. We have run in the meantime, about 30 miles. The boys have made a bed for me upon the cabin, and I have been able to crawl upon it and ride pretty comfortably. We are yet about 9 miles from the mouth of the Parea [Paria] River, it is thought.

**October 25.** Since writing my last I have been very sick, but have improved some during the last 3 days, and am now able to walk around camp. We are at the mouth of the Parea River, where we expect to meet the pack train about the first of November. The scenery, since leaving the Crossing of the Fathers, has been somewhat different from any that we had before seen on the river. Just below our camp, at that place, is a little nook that forbids comparison with anything that we have seen. Straggling along among the stones of the little gravel spit that goes the river side, babbles down a little brook, just large enough to be worthy of that name; pattering along it keeps time, in its progress, with its own music, until it enters the muddy water of the Colorado. As if loath to associate with the latter, it refuses to mingle, and for some distance it holds aloof therefrom, along the pebbled bank. The great river finally engulfs its waters. We quenched our thirst and followed up its little canyon, cut from the solid orange-colored sandstone, so narrow that we might, with extended arms, touch the walls on either side. Its height increases as well, and before proceeding we found it to branch. The right one seemed most attractive, and entering it we were in everlasting shade. The chilly breath from the mountain brought down to us through its gully the spatterings and rattling of a waterfall. Passing on, the walls sway upon either side, over our heads; the little rill intercepts our footsteps as it winds back and forth along the narrow strip of sandy soil, each time besetting the wall, only to be repulsed; goes on undaunted to attack the other side; each time it tears a few grains of sand from the wall; thus this lovely grotto was formed. The sandstone yielding a grain from time to time thus permits a widening and deepening of the gorge. The music of the falling rill invites one further. Passing around a curve the end comes in view, and our progress is stopped by a pool of water as clear and cool as if born of the snows of the mountains. Within a small chamber just above, from fissures in the rocks, come little springs, some dripping, some gushing into the pool which, filled to overflowing,
the waters avail themselves of the cleft in the rocks and come pouring down into the larger pool at our feet. From any damp seam upon the walls, suspended by their wiry roots, droop myriads of ferns and honeysuckle. As we retrace our steps we encounter a swamp of willows, now laid prostrate by the horses of the pack train, whose instincts prompted them to seek shelter within this shady retreat.

The walls of the river canyon are here somewhat broken down, and on either side the Crossing of the Fathers can be reached. The course of the river, just here, is west. A narrow shoal extends across it from southwest to the north, making the river so shallow that, in ordinary stages of water, it affords an excellent crossing place. The river is not more than $\frac{1}{2}$ of a mile wide, and the route is marked by piles of stones that show their heads above the surface. From the right bank the trail passes up a little canyon wide enough for 2 abreast to pass to the plateau. To protect themselves against thieves the Mormons have kept a guard until within the last 2 or 3 years, to prevent raiding parties of Navajos from crossing the ford. The canyon walls increase in height and become nearly vertical, forming the best defined canyon we have passed; upon reaching its end they break down altogether. The Parea River is a repulsive little brook, sluggishly winding its way within the limits of its wide canyon, and enters the Colorado without an ushering note, but adds roil to its already dingy bosom. The river that for 5 months has held us in confinement, often treating us kindly, at other times tormenting us with its maddening fury, has wafted us gently through a line of cliffs, a half mile in height, whose time-worn peaks obstruct the view for half a circle, from the east extending around to the north and west. The cliffs mark their sinuous outline upon the horizon, gashed toward the northwest by the canyon of the fabled Parea, constantly increase to more than 3000 feet. They suddenly drop $\frac{3}{4}$ of their height, but the surface of the country gradually rises until their summits are lost in the haze of this Indian summer. Singing in our ears is the music of a rapid, not a bad one to pass, I infer, though half a mile in length. From still farther below comes the song of others; but they have no charms to me, nor fears. After I leave this place I shall probably never see them again. I have spent the summer working hard through such scenes, and injured my health, and as I now lie with a shelter of boughs, kindly prepared for me by the boys, I resolve to bid this part of the world good-bye. Our summer's work on the river is now ended, and here is a summary: I have had splendid opportunities to pursue my favorite study, that of paleontology; but could have spent the time much better in some other parts of the globe, though a better opportunity to study the effects of the forces of nature can
hardly be found elsewhere—wonderful and beautiful scenes without end. Actual days’ run, 86; in camp 69 days. Days since departure 145; rapids run, 200; boats stove in 5 times; views taken, 350; rapids and falls 239; portages over which all of the boats were carried, 7; line portages, 86; opportunities to communicate with the outside world, 7; miles run, about 600, the river canyoned more than \( \frac{2}{3} \) of the distance; the canyons passed are Flaming Gorge, Horseshoe, Kingfisher, Red, Little Canyon, Swallow Canyon, Lodore, Whirlpool, Craggy, Desolation, Coal, Labyrinth, Stillwater, Cataract, Narrow, Mountain [Monument] and Mound [these last two combined as Glen]; a total of 17 [16]. The rivers passed are: Black’s Fork, Henry’s Fork, Kingfisher Creek (on the right side), Yampa, or Bear (on the left side), White River (on the left side), Nine-Mile Creek (on the right side), Price’s River, or Little White River (on the right side) and San Rafael (on the right side); the Grand River (on the left side), the Dirty Devil (on the right side) and the Parea (on the right). Our greatest day’s run was 43 miles, and our least run was a half mile, and we worked hard all day at that. Highest point attained, Mt. Lena, 4000 feet above the river. Strata examined, Devonian, sub-carboniferous, triassic [?], Jurassic, cretaceous and eocene tertiary; possibly also pliocene tertiary. 

October 30. Day before yesterday, about 3 o’clock, Mr. Jacob Hamblin made his appearance on the other side of the river with 12 other men, 9 of them Navajos. They remained until yesterday morning, and then left for Kanab. They spent one night with us, and we had a jolly time. We got the Indians to dance and sing, which to us was both ludicrous and entertaining. This afternoon I took my first walk down the river half a mile and found some Moquis ruins. Collected quite an amount of pottery and arrowheads. We are getting short of rations again, and have only enough to last us about 5 days. We are looking anxiously for the train, but will not be surprised if it does not come until the first of November. The boys have been packing up their things ready for the start for Kanab, when the train does come, and are caching some of their clothing until they return next spring.

Nov. 1, [1871]. Ten days we have been waiting here for the train; we expected them today; we expect them tomorrow, and we shall expect them the next day; then we shall have one day’s rations left, with 75 miles between us and a further supply, unless we meet them on the way. If we are compelled to leave here on foot with but one day’s rations I do not know how it will end. I may possibly be able to reach Kanab on foot, but it will be a severe task after my severe sickness. I should probably not survive. Jones is so sick with inflammatory rheumatism that he
cannot stir without crutches, and hardly when aided by them. If we leave on foot someone must stay with him. If I get to Kanab, whether by pack train or on foot, it is all that I ask at present. I have no doubt but that the train will be here by the fourth, for Hamblin must have reached home by today, and after he finds the train has not started he will start at once.

November 2. Just after our breakfast an old worn-out man came riding toward our camp upon a jaded horse. The first we saw of him was when, after dismounting, he peered cautiously through the willows, as if to see whether we were friends or foes. It was [Joe] Mangum, one of the party who had been trying to reach our place of waiting. His first words were, "My God! I have found you." He then fell almost exhausted to the ground, and it was some minutes before a thorough understanding could be reached. The long expected train was lost upon the mountains, and this Mr. Mangum had struck out to find his way to us, if possible. He had started as the guide of the expedition but proven only a snare. He left the party one morning at sunrise, and sought his way to the cliffs, and thence down almost impossible passes to the Parea River and found us the next morning. He had been without anything to eat for 24 hours, and having become much fatigued, suffered greatly. He took breakfast, such as we could supply, and then pulled out to find the train, which was about 8 miles away. Professor, Clem and Fred followed his tracks, found the train and returned at 5 o'clock.

Saturday, November 3. We were eating our afternoon meal when Mr. Isaac Haight and another Mormon came riding into camp with 50 pounds of rations for us. When he and Mr. Hamblin went to Kanab they did not meet the train. Upon arriving there they learned that it had been gone 12 days. They thought it must have become lost, so they hastened to our relief with a sufficient supply to get us to Kanab.

We left for the settlement shortly after the arrival of the pack train, and arrived there in about a week, stopping at several places, partly on account of Jones, partly on my account, and partly to study the country. After stopping at Kanab about 3 weeks, spending one day with Brigham Young, who was there visiting, forming the acquaintance of William Johnson, teacher of the school, and his pretty wife, Lucy (who now, in 1903, shares his affections with other wives, and all equally share the honor of his having become a Bishop), I left, with Jacob Hamblin, for St.

48 Mangum made a mistake and guided the pack-train too far north. Then he tried to get to the mouth of the Paria and got lost on the plateau. He finally found the same Indian trail by which Escalante in 1776 made his way from the mouth of the Paria up to the plateau and over the Ute ford, now called Crossing of the Fathers. This trail comes down the high cliffs about three miles above the mouth of the Paria, in the canyon of the Paria on the east wall.—P.S.D.
George, a town several days' travel toward Salt Lake City. From there I went by stage, in which was 10,000 dollars worth of silver bullion. Waited at Salt Lake City a few days for my railroad passes, and left for home. While waiting for the train at Ogden, Utah, the weather seemed to be unpromising, and as a precaution, I supplied myself with quite a good box of provisions, and got permission to place it on the platform of the mail car, where it would be kept cold. It turned out that my premonitions were of service, for, before the train had gone a hundred miles, it became blockaded. Mrs. H. V. Reed, editor of the Restitution, and her daughter occupied seats near mine. They noticed that my supply of provisions was of the substantial kind, while the supply they had brought (they not having foreseen the possibility of disaster) was knickknacks, and small in quantity. They proposed that we mess together, so that each might fare a little better than otherwise. When we reached Omaha our train was 14 days overdue; 16 days we had spent with the train in the snow, and we had fared well, while other passengers were compelled to live mainly on sardines and crackers, which were found on a freight train at a small station.
WALTER CLEMENT POWELL
As he appeared about 1875

Courtesy, Mrs. Mabel Powell Bradley
WALTER CLEMENT POWELL
1850-1883

Walter Clement (Clem) Powell was born January 31, 1850, perhaps in northern Kentucky, though the exact place of his birth is not known. His father was Walter Scott Powell, a brother of Reverend Joseph Powell, who was the father of Major J. W. Powell, hence Clem was a first cousin to the Major. Both of his parents appear to have died before Clem reached the age of 6, but he had four sisters, Minnie, Belle, Lily, and Ada, and one brother, Morris.

The children were given a home by Reverend Joseph and Mary Powell, most of whose children had grown up, some having already married. Most of Clem's brothers and sisters, like himself, attended school in the elementary division of Illinois Institute, which later became known as Wheaton College. There is record of his attendance there during the years 1855-1861, his name appearing in the school records as “Walter” rather than “William,” as it has sometimes been given.

The eldest of the children, Morris, upon his graduation from the collegiate department of Illinois Institute in 1856, established a drugstore in Naperville, Illinois. Later he provided a home for Clem, though the sisters lived with friends and relatives until they reached maturity.

Unfortunately we have little information concerning this young journalist. The portrait of himself drawn in his journal is that of a boy on the threshold of maturity, bound by close ties to the members of his family, especially to his brother Morris, whose relation to the younger brother had much of the paternal in it. Clem had evidently the normal boy’s interest in athletics, particularly baseball, and a boy’s picturesque command of the current slang. But also he seems to have had a literary turn of mind, spending his odd moments reading the small library of classics carried by the expedition. On the voyage his closest friend was Captain Francis M. Bishop, formerly a teacher at Normal, Illinois, and these two frequently expressed mild contempt for less cultured members of the party. Almost from the moment of starting, Clem was homesick, often expressing his desire to leave, but fearing to be called a quitter; at the same time he was determined to make the most of his opportunities. While not particularly robust, he never shirked his duties, and appears to have survived hardships of the journey better than some others, most of whom suffered sickness at one time or another.
Clem had been selected as assistant to E. O. Beaman, official photographer, who made the first photographs of the Green and Colorado rivers through their canyons. Dry plates and film had not yet been perfected; photographs were made by the wet plate process, which necessitated carrying chemicals, developing trays, water, and a dark tent in which glass plates could be sensitized and developed on the spot. This equipment was packed in a box which Clem was required to carry wherever Beaman went with his camera. He frequently calls this box “that infernal mountain howitzer,” and since the Major often wanted pictures taken from great heights above the river, carrying the “howitzer” became one of the most strenuous tasks required of any man in the party.

It was understood that Clem was to learn photography and would then become a permanent member of the Major’s staff, accompanying his various expeditions to survey and map the unknown West. While the young man seems to have applied himself to this task, he never quite mastered the art, due perhaps in part to Beaman’s opposition. When the expedition went through the Grand Canyon in 1872, he was still an assistant, Jack Hillers having replaced Beaman. Hillers, originally enlisted as a boatman, had earlier dabbled in photography; he learned something from Beaman, more from James Fennimore, who was attached to the party for a few months during 1872, but most from experimentation. While Clem’s inferior position must have been a great disappointment, in his journal there is no hint of resentment toward Hillers, who then and later made the finest photographs ever obtained in the Grand Canyon. Many of the plates which Clem polished so industriously now repose in the archives of the U. S. Geological Survey.

After returning home late in 1872, Clem learned the drug business from his brother Morris, and shortly before his marriage in 1875 opened an establishment of his own. Later he moved to Omaha where he developed a wholesale drug and tobacco business and obtained local prominence, becoming a member of the Board of Trade about 1880. He died suddenly in 1883, the exact date of his death not being known, survived by his wife, May Breasted (sister of the celebrated historian and orientalist, James Henry Breasted), and one daughter, Mabel (Mrs. Lester W. Bradley), who is still living in San Diego, California. Unfortunately his daughter was too young to remember much about her father, but to her were entrusted Clem Powell’s journals, and to her we are indebted for permission to publish them and for the accompanying photograph of the journalist. These diaries she has now deposited in the museum at Grand Canyon National Park.
The diaries consisted originally of four closely written pocket notebooks, but only the first, second, and fourth of these survive. Fortunately the three volumes here reproduced cover all the river journey, to many of us the most interesting and certainly the most exciting part of Powell’s work. Fortunately, too, a series of letters by Clem, as rewritten by his brother Morris, were published by the Chicago Tribune, and four of these letters serve in a fashion to bridge in Clem’s own words the gap in his diaries. As an appropriate appendix to his journal, the last and best of his letters gives a fascinating account of the Hopis.

The particular charm of this record lies in the fact that Clem Powell, an impressionable young man, was more interested in personalities than in geology, topography, or photography. Recording his thoughts exclusively for the eye of his brother, Morris, he wrote with unbounded spontaneity and no thought of future publicity. One may find more of the scientific side of the expedition’s labors in other journals, that of Jones, for instance. But the human side, giving us our fullest understanding of the day-to-day joys and sorrows, achievements and frustrations, is nowhere so richly developed as in Clem’s words. Although he was the Major’s cousin, he received no preferential treatment on that account, and frequently expresses his opinion of Major Powell, sometimes with approval but often with severe criticism, depending upon his mood at the moment. Always his journal is picturesque and lively, and perhaps it will be read with greater enjoyment than any of its companion records.

Charles Kelly.
April 21st, 1871. Left Naperville [Ill.] for Aurora at 9:00 a.m. Took dinner at Cousin Bram’s. Met the Maj. and wife and Fred S. Dellenbaugh at the train. Could not get sleeping berths for Fred and me. Took supper at Burlington [Iowa]. Spent rather a hard night sleeping in a seat. Did not have breakfast. Reached the Mississippi at 7 p.m. on the 21st. Crossed the bridge at Burlington. About 3000 feet wide. The river is not as imposing as I had supposed. Weather fine.

April 22nd. Reached Council Bluffs [Iowa] at 10:00 a.m. 'Tis rather a picturesque place. Crossed the Missouri on a ferry boat. The river is as wide as the Mississippi at Burlington. Met Frank [C.] A. Richardson here. Stopped at the “Cossin’s House”; board was very fair. Spent the afternoon with the Maj., Frank and Fred in looking after the baggage, boats, &c. Did not get to sleep till about 12 on account of flying pillows.

April 23rd, Sunday. Went to Methodist church in the morning, heard a very fine sermon. Spent the afternoon in writing letters to Morris and Cousin Lou.

April 24th. Have been seeing the sights of Omaha [Nebraska]. Met Ed Rose and Wm. McClintock. 'Tis quite a little city of about 30,000 inhabitants. Left at 12:00 M. The Maj. engaged a stateroom for the party. They are very pleasant and comfortable, quite homelike in fact. Spent a very pleasant time with Cousin Emma. Finished the history of “Frederick the Great” in Harper’s [Monthly] and read the Galaxy through for May. At night had a berth. They are far more comfortable than a seat.

April 25th. Woke up and found the ground covered with snow. Saw a herd of antelope. Had breakfast at [ ]. The country is monotonous—rolling prairies. Reached Cheyenne at noon—had dinner. Expected the rest of the party on the Denver train but were disappointed. Maj. went to Denver to see after them. Spent the afternoon in roaming around “the burg.” 'Tis a
small, dull, lonesome place. The streets are mud holes, the rainy season having just set in; have not had a rain before for 7 months.

[April] 26th. Rose at 5½ o'clock, took a walk with Fred over the hills—had a good appetite for a good breakfast. Wrote letters to Fanny [Summerton] and Minnie. The party not here yet.

[April] 27th. Time passes slow here at Cheyenne—'tis dull. Had a pleasant walk with Cousin Emma and we spent a pleasant time at her room in the evening. Had a dispatch from the Maj. stating that nothing had been heard from the party; we are all feeling anxious.

[April] 28th. Took a walk with Cousin Emma up the railroad track. She is very pleasant. The Maj. stepped in the dining room as we were eating—the rest of the party on board the train bound for Green River City [Wyo.]. Have made the acquaintance of Capt. Bishop, E. A. [O.] Beeman [Beaman], Jones, Stuart [Steward] and Hatton [Hattan] the cook; they all seem to be first rate, wholehearted fellows. I think I shall like them "muchly." Could not procure a sleeping car. We had a grand ride in going over the Rocky Mountains. We were 8200 feet high. Passed over the iron bridge where one can look down 2000 feet. 'Tis about 1000 feet in length. At Summit Station all the passengers got out and amused themselves by snowballing each other. Thought of the folks at home—how they would enjoy such a scene. There were rocks on rocks—peaks—towers—gulches—ravines and abysses—the view was sublime. Saw "S. T. Plantation Bitters 1860" painted on the rocks—wondered how P.F.B. were getting on or words of similar extents and purposes. We commenced descending the Pacific slope through winding chasms, under snow-beds and over bridges. Took supper at Laramie, 8000 feet above the level of the sea.

[April] 29th. Arrived at Green River City at 6 a.m. Had breakfast with Mr. Fields. Have seen my first "John Chinaman"—they are odd looking fellows with their long cues [queues], wooden shoes and queer looking hats. We have launched our boats and have taken a row down the Green River. No wonder they call it the Green River for the water has a decidedly green hue.² Are camping out in a lot of deserted adobe huts. Beeman and myself who are to bunk together while on the trip have fixed up a good bed in one of them. We have a stove, stools, benches, &c. Have divided my pack—part to be taken with the boats and rest sent to Salt Lake City. Have been removing baggage from the depot to the huts. Feel tired. Had a good supper.

²From its source to where it cuts through the red sandstone formations of the canyons through the Uinta Mountains, the river has a definitely green color. It was known to Spanish explorers as Rio Verde. Antoine Robidoux's inscription of 1837 calls it "Rio Vert."
presented with a Winchester rifle and 500 cartridges by the Maj. Am well pleased with the gift.

[April 30th.] Took a walk with "our artist" over the bluffs. We found some good specimens of fossil fish—intend to take some home with me for Dr. Paul. Amused ourselves by firing at different marks with our rifles. When we reached camp found dinner ready. Have spent the afternoon in writing up my diary. The river, railroad and our camp are in the Green River Valley surrounded by high bluffs. It is a picturesque place. My chum Beeman is sorely afflicted with the nosebleed—long may it wave. Weather very windy and blustery. Received a visit from the female portion of the community. They seemed "struck" with our appearance, I'm sure I did with one of them, a regular western beauty. We talked of the weather, of literature, of chess, of Green River City, of the States. We walked down the river bank and saw the boats. She thought they were "a heap good canoe"—"twas an Indian maiden. Packed my bag to go to Salt Lake City. We had leaden biscuits for supper and coffee without milk. Mrs. [Almon Harris] Thom[p]son asked me if I was homesick.

May 1st, [1871]. The party busy unpacking and rearranging; removed our camp from the house to an island in the river—'tis far more comfortable and romantic. Helped to finish up the "Canonita." Wrote to Mrs. Stevens.

May 2nd. Found ice in the room this morning—'twas a cold night. Took 4 views in the forenoon. Have been learning the photographing business with a vengeance—have been cleaning glass, &c. Finished a letter to Mrs. Stevens. The Maj. started for Fort Bridger this morning and will go to Salt Lake City tomorrow. Sent photo to Frank [Morse]. Spent a pleasant evening with the ladies at Mr. Fields—music, &c., &c.


May 4th. Received a letter from Morris, the first one I have received yet. Am glad I am not forgotten at home—had begun to think I had [been]. The rest of the party had been receiving letters every day since we have been here and I not one. We had pictures of the boats taken today just after being painted. Wrote to Morris, Aunt Anna, John Richmond. Weather warm.

May 5th. Received a letter from Cousin Lou, informed me of her sister's death; she has my heartfelt sympathy. Polished glass—read—played chess. Read Jack Sumner's journal of his trip down the Colorado.8 'Tis enough to make one's hair stand

8The last half of this journal, all that survives, has been printed in this Quarterly, vol. XV, 1947.
on end. Has affected Frank [Richardson]; talks of backing out. It makes me all the more anxious to "try it on." Weather fine.

May 6th. No mail this morning. Beeman and myself went down to take the adobe town—crossed the ferry—let go the rope—went down ½ mile—had a ducking—amused the squaws. Went into the mountains—rained—returned to camp—took views of the camp—cleaned glass—played chess—finished letter to Cousin Lou—read. Weather fine.

May 7th. Day set in cloudy and rainy, hailing at times. Wrote to Morris, Givler, Frank Morse. Felt rather blue but got over it as soon as the sun came out. Such a splendid sunset view; the sun sank low behind the high bluff to the west of camp, the rays threw up all the colors of the rainbow and lovingly touched the highest tips of the surrounding hills with a golden light—goodbye, Old Sol. The evening is a brilliant starlight, the moon looked grand as she rose slowly over the eastern hills. We spent the evening, with Mr. Field's family, had music, sang "Do They Miss Me at Home?" I wondered if they missed me.

May 8th. Busy cleaning glass—weather squally. As the evening passenger train passed by was [were] cheered by the passengers. We returned the compliment by waving our handkerchiefs. A magnificent sunset view—the tops of the bluffs on either side [of] the valley were bathed in a flood of light by the rays of the sun and ere it sank out of sight a couple of rainbows, signs of a fair tomorrow, arched the valley. Prof. Thompson started for Salt Lake City in the morning.

May 9th. Received a short letter from Sister Minnie. Am disappointed at not receiving any from home. Went fishing with Fred, had the usual fisherman's luck—had a good time though. Tried our guns at marks, &c. In the evening played ball, leap frog, jumped, &c. Weather fine. Tried to take some of the Chinese pictures—were scared, ran away.

May 10th. Was cheered by a letter from Morris. A good day's work cleaning glass. Weather rainy.


May 12th. We took some views of the adobe town in the forenoon. In the afternoon started out with Frank up the Fish Butte. Got a magnificent view of the surrounding country, Uintah Mountains 50 miles distant. Fell down the cliff about 25 or 30 feet—no harm done—had a race down it with Steward—beat him.

May 13th. Started out with Beeman, took views of the different buttes. Saw the old emigrant tollgate—marked a few names on the posts—"tis quite romantic. Wrote a letter to Mrs. Stevens and Fanny. On going to supper slipped off the boat,
May 14th. Spent the Sabbath quietly, reading, &c. Steward, Jones and myself took a walk across the river among the bluffs. Got a magnificent view of the country for 100 miles. Could see the Uintahs and Wasatch Mountains, snow-clad, and Pilot Butte 30 miles away, solitary and alone. Found quite a number of garnets, &c.

May 15th. Steward, Frank and myself went out after specimens about 6 miles up the railroad track. Had a nice time, back about 2:00 p.m. Maj. and Thompson back from Salt Lake City. Have an addition to the party, John K. Hiller[s], from New York City.

May 16th. Beaman, Hattan and myself assigned to the “Canonita.” Am well pleased. Bound to make it the best and fastest boat in the fleet. Took a row across the river. Put canvas on the boats.


May 18th. Silvered paper. Am progressing in photography. Our camp visited by a Ute Indian. Sold the Maj. a pipe captured from the Cheyennes for $6.00. Printed pictures in the afternoon. Will have to stay up tonight to watch the barometer. Have got so I can read it. Weather rainy.

May 19th. Took observations every half hour last night. Fred’s sister passed through this morning, left oranges and confectionery. Silvered paper and printed pictures. Received and wrote letters to Cousin Nellie at Salt Lake City. The ladies at supper with us tonight. Took a row on the river. Letter from Morris. Weather fine. Played chess.


May 22nd. Up early. Breakfast at Field’s—gay one. Packed boats—off at 10 a.m. The village down to the beach to see us off. “Emma Dean” first, “Nellie Powell” next and the “Canonita” last, amid waving of handkerchiefs, adieus, good wishes and dropped down about 3 miles and camped for dinner. Thought we had left a thermometer. Had broken an oar of the “Dean” in going over a rapid so Frank and myself were sent back for them. Could not find instrument. Got oar. Found “Canonita” waiting for us. Found Thompson a mile down to tell us about a rapid. Gave my place to Harry and walked over the bluffs. Found the other
boats waiting for us. Floated down between high hills and cliffs. Camped 9 miles from Green River on a beautiful island covered with trees. About 4½ o’clock ran a rapid. Got supper and we all turned in. Weather fine.

May 23rd. Up at 4:00, found it raining, turned into snow. Had a good breakfast in a deserted log hut. Am writing this in it by the side of a good fire. We are waiting for it to clear up and then off we will go. Has been stormy all morning. Dinner at 12:00. The bluffs are covered with snow, a beautiful sight. Started at 1:00, passing through high bluffs. Named one “Little Dick,” another “Gibraltar Butte.” Saw a trapper and son, stopped, sent back to Green River City some fossils we had collected on our way down here. Camped at 4:00 p.m. Bishop and myself paced it off to the bend, found it ½ mile—shot at a mark—good shooting. A good supper, a night’s talk around a roaring campfire, we retire to the arms of Morpheus. All is X66666. Weather windy, cold.

May 24th. Rose at 5:00, found it cold; washed in the river. A good breakfast on fish. Started at 9:00, dropped down a couple of miles, stopped to take a view of Needle Bluff, found some geese but did not get any. Camped for dinner at 11½ on an island covered with sage brush—did justice to the meal—tried to take a view but failed. Started at 2:00, went over 2 or 3 small rapids all right. Stopped several times. Bivouacked on east bank of river and went hunting after geese but did not see any. Saw a couple of deer, did not get a shot. Have a good appetite for supper. Caught fish and cleaned them. Went to bed under some willow trees. Slept warm. Weather cool.

[May] 25th. Rose at 5:00, had a good breakfast off our fish. Started at 7:00, had a pleasant ride, scenery grand, river abounding with riffles, shoals, rocks, broken and cut up with beautiful islands on one of which we camped for dinner under a group of cottonwood trees. It is a fine thing to float down the river with little to do but admire the steep buttes that overhang the stream, to see the distant Uintah Mountains, snowcapped, glistening in the sunlight and with now and then a glimpse of a tall butte, castle-like up some narrow gorge or ravine. The rocks form all kinds of fantastic shapes, and is [are] sublime. I am writing up my diary while going downstream and have to now and then drop book and pencil and “bear a hand” at the oars whenever we get to a bad place. The scene is enlivened every once in a while by a flock of geese or ducks flying around with their quacking. We have wasted a few shots at them but only succeeded in getting a goose which fell at my fire—loud applause from the boats. The “Nellie” ran aground and we were a mile ahead of her when she finally got off. How is that for the “Brag Boat.” Ah! there is firing from the “Emma,” they are landing.
JOURNAL OF WALTER CLEMENT POWELL

are crying "deer," and each boat is straining every nerve to reach the island. We land, grab our guns and beat the brush for deer. All at once I see one about 50 yards in front of me, broadside toward me, standing still. I fire and it jumps 6 feet in [the] air and drops dead with a ball through her head. There is firing all around, showing there are more deer. We hunt around and 3 more are killed, only one escaping by swimming across the river. We cross to the mainland and camp, skin our game—a pretty fair day's hunt I trow. We have a glorious supper off of venison, coffee, &c. I have killed my first deer.*

May 26th. Rose at 4½, breakfasted on venison, coffee, &c. Left at 7:00. Had a pleasant row down the river for about 2 miles, then camped on a barren sagebrush plain under the shadow of a huge cliff 800 feet high. It looks as if it had been dumped from a dray. The Maj. and Steward stopped to make geological explorations and we will stay here till tomorrow. We pitch a tent to keep the hot sun off of us, it being 92° in shade, 115° in sun. All hands fall to work, some taking observations, &c., the rest "jerking" venison. In the afternoon Capt. Bishop, Fred and I go up to one of the many grottoes that we find up the side of the rocks, the Capt. and Fred to sketch and I to dream and think of home and wishing they were here. Finally up comes the Maj., remarks, "how Morris would enjoy this trip." At 3:00 Beaman, Maj. and I start up the river to take some views we passed in the morning. They are very fine. Reached camp at 6½, had supper. Made our bed on a patch of green grass.

May 27th. Rose at 5:00, had breakfast and the "Nell" started down. Beaman had negatives to finish and the Maj. and Steward some geological work to do. I busied myself cleaning out the "Canonita," packing her and getting her ship-shape. In about an hour the "Dean" started down and about an hour after, the "Canonita" started. We had a rough pull of it, the wind against the current, making chopping waves and hard work. Passed the "Dean" a couple of miles down, tied up to the shore. The river winds, twists and bends round many a beautiful island. About 2 hours after we started came to the entrance of Flaming Gorge, so called from the bright red sandstone that forms the huge cliffs on either side. How it strikes one with its beauty and sublimity, the red sandstone stretching 700 feet and dotted over with bright green pine trees that grow up their sides. But another more real, more awful scene awaits us. It is a huge forest on fire. We can see the flame and smoke over the ridge that separates us from it. About ¼ of a mile from the entrance we see the "Nell" anchored and we drop in just above her and land in a beautiful place composed of pine and cottonwood trees.

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*This claim is not confirmed by the other diarists. See Dr. Gregory's note, p. 26.
rose bushes in bloom, soft green grass, making the best camping place we have had yet. Back of us a steep cliff, opposite in front of us huge tall rocks of sandstone forming Flaming Gorge. After landing and unpacking build a fire. I came very near setting the whole place on fire. Did succeed in burning up Andy's coat and one or 2 empty sacks. Shot at some geese but missed. The "Dean" came in about an hour and a half afterward and dinner is ready. The Maj. has decided to stay till Monday. After dinner we build a tent and we all take it easy reading, sleeping, writing, sewing and washing. A good supper and talk around the camp-fire till one by one we drop off to sleep.

[May] 28th. Rose at 6:00. Breakfasted and Beaman and myself started for the entrance of Flaming Gorge to take some views from the entrance looking down. Makes a splendid picture. Returned, cleaned my gun and had dinner. Opened a bottle of sauce—was good. Maj. and Steward went across the river to make some geological researches. Have been reading, sleeping, dreaming of home and writing my diary. Weather fine, cool and pleasant. We are camping on the same ground that the other party did that went down before. Quite a number of traces remain. The Maj., Bishop, Steward and myself spent the evening in singing and a delightful time we had of it in the bushes that lined the river, singing all kinds of songs "that cheats of its sadness the wearisome hour." Every now and then a loud splash interrupted us from some rock that had fallen from the cliffs around us, 800 to 1000 feet in height. Turned in at 10:00 p.m.

May 29th. Rose at 5:00, breakfasted. Broke up camp. Weather very windy, making nasty waves. The "Nell" shipped water. Very fine tall towering cliffs from 800 to 1500 feet high covered with pine trees. Passed from Flaming Gorge into Horseshoe Cañon. Ran a rapid, all O.K. Camped at 10:00 about 3 miles down. Pitched our tents in a dense thicket of brush; had to cut roads through from the boats. It commenced to rain, "storm on the mountains," a grand thing. After dinner Beaman, Maj., Jack and myself had a hard row up the river to take some views, some grand views, along the cliffs, rock chasms, ravines, gorges, &c., solitary rocks towering 1000 feet high and all covered with vegetation, making a most beautiful sight. Came back to camp in a rain. Ponchos are a good thing for wet weather. Had supper, broke up camp and moved down about 2 miles and camped on a barren rock. Made our fire, spread our blankets, had a good time around the camp-fire and then retired to sleep. Tis Frank's birthday and have gathered flowers for him. Will send them when I write home again.

May 30th. A dull, wet, rainy, dreary day. Have been thinking of home and wondered if they could imagine such a woebe-gone, shivering party as we formed, hovering over a fire, grum-
bling and growling at the weather. Frank, Andy and myself staid in camp while the rest of the party scattered in all directions, some after game and others for scientific purposes. They came straggling in between 1 and 2 o’clock, but nary game had they seen. Beaman took some views; were not good; dark tent blew over, breaking a negative and spilling part of the bath—swore a little. The same gust of wind piled up all of the pots and kettles and Andy on top of them into the fire, knocking over the rice and beans stewing for dinner. Some more swearing from the “heap” shortly afterwards. Broke a glass funnel for Beaman, prolonged and continued swearing and then to crown all, “Little Breeches” jumped into the river and hollered “Fire.” Great and uproarious swearing from him when taken out. Found he had sat down on a coal of fire and burnt out the seat of his breeches. So the dull day passed. The above incidents “cheated of its sadness the wearisome hour.” Sewed patches on the boat hatches, pitched a tent to sleep under, dug up and walled up a place to sleep on and covered pine boughs on it to make it soft. ’Twas a gay thing. Slept warmly. About 8:00 Steward and Fred came after a long day’s tramp; had discovered some bones of a mastodon.

May 31st. Broke up camp at 7:00. Passed into Kingfisher’s Cañon, scenery fine. Stopped about 2 miles down to take some views in a lovely little valley with a creek of pure cold water running through it at the foot of the mountain. Found and wounded a couple of deer; although followed could not find them. Took 7 views. The other boats went on ahead and left the “Canonita” to follow, which we did in about an hour. In going around Beehive Point ran into a rapid which we rode finely owing to the good management of Beaman; did not ship a drop of water. The other boats did. Just below them found the rest of the party, camped for dinner, and we dittoed. After landing with my diary I sat under the first tree and have been writing up my diary for the last 2 days. Dinner is just ready and I go. After dinner dropped down about 3 miles to the head of Red Cañon and camped for the rest of the day. In taking Steward across the river he was brushed off into the water but no damage except a cold bath. Lost a screw to Frank’s gun, burned the leaves around the place, found it.

June 1st, [1871]. We stay here all day and pull out tomorrow. After breakfast Bishop, Steward, Beaman, Frank and myself went across the river for different purposes, Frank grumbling at the Maj. for sending him out geologizing. Beaman took 4 views of

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If so, Steward and Dellenbaugh neglect to mention this find. In bringing his diary up to date, Clem may have confused events of this day with those of the 28th, for which see Steward’s journal. The remains Steward describes are too large to be anything but those of a dinosaur.
Beehive Point. Returned at dinner time and started down the river and took 4 more. We saw a succession of rapids go rumbling, tumbling and dashing along over the huge rocks and we "bitterly thought of the morrow." On returning took a bath, changed my clothes, &c., and felt better. Had a pleasant chat with the boys of the other tent. Had a good supper off of some partridges killed by some of the party. Songs were sung and anecdotes were told around the camp-fire and then we all turned in.

June 2nd. Maj. awoke us at 4:00 telling us to pack the boats before breakfast as we had a hard pull before us and wanted us to get off early. There was some talking about the rapids below us and the Maj. was asked if our "sausages" (life preservers) were needed. He said, "Oh, no." Started at 7:00 and struck the rapids ½ a mile below camp and away we went at the rate of 8 or 10 miles an hour. Oh, but it was a sight to see the 3 boats, one behind the other, rocking and tossing on the mad waters. The waves at times were 4 or 5 feet high. Every now and then one of the boats would be buried from sight by some huge wave between us. All at once the "Nell" strikes a rock near shore and over she goes, spilling out her crew. Camp kettles, oars, &c., pass them in an instant. Unable to help them, the current being so swift. The Maj.'s boat, the "Dean," is pulling in toward shore a short distance below and as we pass them trying to land, over goes the "Dean," spilling out the Maj. and his crew. We land all right, thanks to the good management of Beaman. About 25 rods below tie up our boat and hurry back to the "Dean" finding her all O.K., right side up with care, and the crew bailing her out. The Maj. hurries back to see how the "Nell" fares. Finds the crew all on shore bailing her out, repairing damages, seeing after her generally. As we were coming by her, picked up a couple of her oars. Thompson finds they have lost a camp kettle, the boat's sponge and compass; have stove a hole through her side. It takes them about an hour to repair damages and again we start shooting rapids and gaily riding the waves. At 11:00 we stopped for dinner. Beaman, Jack, Frank and myself start out with the whole photographing machinery to take a view of a creek we had passed. "Twas a hard, dreary, rough walk up the mountain side. When we got there found we could do nothing, so we came back. After dinner launched our boats again on the rapids. Went down a couple of miles and finding

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6On the first expedition Major Powell, who had only one arm, used an inflated rubber life preserver which was later presented to the Smithsonian Institution by William R. Hawkins. On this second journey all the men had similar life preservers, but seldom used them because they interfered with rowing.

7A small stream entering the river at this point still bears the name Kettle Creek; another is called Pot Creek.
the rapids so bad in front of us concluded to land, while the Maj. and Prof. went ahead to see what was best to be done. They returned in about ½ an hour and said we would have to pull across to the other side and make a portage ½ mile down the river. 'Twas hard pulling across so swift a current, and we barely made a landing. Took part of the things out of the boat and carried them down below the falls while we let the boats down carefully, some holding to the rocks and some with oars to keep her off the rocks, while one man was in each boat to guide her. And so our first rapids were run and our first portage made. We went into camp at 8:00, had supper at 9:00. Turned in immediately afterwards, just about tuckered out. We are camping on the same ground and have built our fires on the same spots that the Maj. did just 2 years ago tonight. Have found a blanket and a shirt that the Maj. threw away then.

June 3rd. Rose at 7:00, had breakfast. The Major has concluded to stay here all day to geologize, &c. Beaman took 3 or 4 views of our first portage and 3 or 4 views of the scenery during the forenoon. In the afternoon took my ease. Read Scott, patched my breeches [sic], &c., unpacked my bag and rearranged it. Reread all of my letters. How they cheered me, especially those from home. The Maj. and Prof. are very kind and are looking out for my best interests. Think I have made warm friends of all the party. Had a good supper off dried peaches, sowbelly, and tea. Built up a huge camp-fire around which we all sat recounting adventures, jokes, &c. There are 8 in the party that are old soldiers. The evenings around the camp-fire are by all odds the pleasantest. We all turned in about 10:00, just as the moon behind the mountains was casting her light on the tips of the bluffs across the river.

June 4th. Rose at 4½, had breakfast and broke up camp at 7:00. We had to lower our boats ¼ mile down stream, the rapids were so bad. It has been one continuous succession of rapids, from the entrance of Red Cañon (a cañon 25 or 30 miles long, the first big cañon we have yet come to) and will be till we get to Brown's Hole, and every now and then there is a cataract or fall with rocks in them, making them bad. We passed over a number of them safely, though the "Nell" shipped water badly. I couldn't help but think that while the folks at home were enjoying the Episcopal services we were tossing and dashing along the Green, holding communion with nature in one of her grandest cathedrals. We landed at the head of 3 or 4 rapids but ran them all right, though one was just made by the skin of our teeth. Landed on a beautiful island at 11:00 for dinner.

*On this voyage all were ex-soldiers except Fred Dellenbaugh, 17, Clem Powell, 21, and Frank Richardson.*
under some magnificent pine trees. It being Sunday the Maj. says we may rest the balance of the day, so we go to work and fix up our tents in the shady places and then take our ease. Have been writing up my diary for a day or two back and will now take up Scott. Have passed the afternoon very pleasantly, the Maj., Thompson and myself reading Scott and Longfellow alternately aloud to the rest of the party. We are camping on the same island that the Maj. did before, at the head of which at the rapids above, 3 men were drowned, belonging to an expedition that started down a week after the Maj. 2 years ago on a prospecting trip. The accident broke up the party on this island and we see 2 of their boats (almost buried by the sand) tied to the shore.

Have dried peaches and ham for supper. The weather has been fine.

June 5th. Broke up camp at 7:00. After running a number of rapids landed at 10:00 to take a view of Cascade Creek. Had a long weary walk (with that infernal box on my back) over and around a mountain 1000 or 1200 feet high. A beautiful place when we got there though. Reached camp at 1:00, had dinner, then started, ran through a number of bad rapids and places till we came to Ashley's Falls, where we had to land and make a portage. First we took out everything in the boats and carried them around the falls about 150 yards. Then we carried the "Emma" over the rocks. We then thought that perhaps we could let the other boats over the falls by line, so we tried the "Canonita." She was turned over twice and received some very hard bumps and so we carried the "Nell" again over the rocks. It being almost dark by that time we camped there on the rocks. 'Twas rather a rocky bed to lay on, but we were so tired did not mind it much. The falls are called Ashley's from the fact that that name (of an old hunter and trapper) is painted on one of the rocks with the date 1825. I placed Morris' and my name underneath with town and state and business, also Colorado River Exp. Exp. 1871.

9Beaman says they called this "'Ant Island,' from the myriads of these industrious little insects that infested it, and which overran us and our food with an alacrity more astonishing than delightful." He adds that the first Powell party encamped here on the same date two years earlier, but the date would have been June 1 rather than June 4. See Bradley's journal in the preceding volume of this Quarterly.

10Dellenbaugh says he saw here the grave of Theodore Hook. Stanton says H. M. Hook was drowned. This party, from Cheyenne, followed Powell in 1869, intending to prospect in Browns Hole where Jesse Ewing had found a showing of copper ore. Clem says (Aug. 5) he saw Hook's grave in Browns Hole. Possibly two Hooks were drowned, the body of one floating to Browns Hole where someone buried it.

11The date of Ashley's expedition is here given correctly although it had been misread in 1869. Julius F. Stone, who ran these falls without difficulty,
June 6th. Breakfasted at 6:00. Beaman took pictures of the place while the rest of us packed the boats. Took us an hour to do it. Found our bacon had heated and had burnt our bags. Our journey of course was a continued running of rapids till about 10:00 when we landed to take another view of another creek. Had to climb a steep hill. Jack helped me with the box. When we got to the creek it was a most beautiful scene. Jack and myself climbed upon some rocks in the middle of the brook (which seemed to say, "I come from haunts of coot and tern") and had our pictures "tooken." Called it "Frank’s Creek" in honor of Frank. Got back to the landing at 12½ and found that the other boats had gone, and so we followed. In coming down ran a bad rapid, shipped a good deal of water but came through all right. After rowing ½ hour came up to the rest of the party and found dinner just ready; of course we pitched in. After dinner the "Nell" and the "Emma" went ahead while we stayed behind to take some more views. We started in about an hour and ran 5 or 6 small rapids when we came to a regular "roarer." The waves were running 8 or 10 feet high; the bow of the boat would be almost up straight up in the air at times and then would come down with a splash and the stern would be up, and once the "Canonita" cut right through a huge wave and almost filled her. My soul! but there was some pulling done at that time with the water over our knees. Saw the boats had landed to bail out and we did the same. No damage done. After getting the water out started again. Shortly struck another rapid that filled the boats ⅔ full, but bailed them out without landing. At 4:00 we landed at Red Canyon Park and unpacked the boats to see if the rations were dry. Found them all O.K. but ourselves wet to the skin from head to foot. Build a big fire and dry ourselves, clean our guns. Have supper, make our beds and retire.

June 7th. The Maj., Steward, Prof., Bishop and myself went up on one of the peaks 5 miles from camp. Saw some elk. Had a weary climb of it; had a camp meal. Had a magnificent view from the top of it, 4000 feet high, or 10,000 feet from the sea.
Named it "Mount Summerton" in honor of Fanny. We had a nice time of it coming back, picking flowers, talking, &c. Reached camp at 7:00, had a good supper and turned in pretty well tired out. Weather warm.

June 8th. Broke up camp at 8:00 and after packing the boats started down the river. Ran several rapids. At 10:00 reached Brown's Hole. Found a party of herders there with some letters and papers for the party [brought] from Green River [Station], and as one of them is going back there in a day or two, wrote a letter to Morris and one to Cousin Emma at the Maj.'s request. Sent some flowers to them. In the afternoon started out with Steward for the mountains; had a pleasant time. Came to Red Rock Creek and quenched our thirst. Came back by the wagon road, reached camp at dark pretty well tired out. Learned that Frank was to leave us day after tomorrow. He seems to feel bad about it but I think that it suits him. He goes back at the Maj.'s request.

June 9th. Wrote another letter to Morris. Read Scott most all day long. The rest of the party staying in camp and

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14This is the peak now known as Mount Lena, having an elevation of 9722 feet above sea level. It was named for Selena Bakewell, Captain Bishop's sweetheart, as the other diarists note in their journals. See, especially, Bishop's own journal in the previous volume of this Quarterly, p. 170. Yet Almon Harris Thompson as well as Clem Powell uses the name, "Mount Summerton." See Thompson's journal entry for June 12, 1871, published in this Quarterly, 1939, vol. VII, p. 18.

15Browns Hole, famous winter camp for trappers, is frequently mentioned in early trapper journals. The exact origin of the name has never been established, but there was a "Boatswain Brown" in Jedediah Smith's second California expedition of 1827, killed by the Mojaves when Smith was crossing the Colorado at present Needles, California. After 1865 Browns Hole was used as a winter herd ground for Texas cattle being driven to California. The herders mentioned were the Harrell brothers and Bacon, with two Mexican helpers. Jones says they had three covered wagons. None of the journalists agree as to the number of cattle wintered there, and E. O. Beaman, in Appleton's Journal, April 18, 1874, is further in disagreement by giving the number as about 8500 head of cattle and 80 ponies, herded by 10 Mexicans. Beaman further notes, as do none of his companions, "A party of miners were also there prospecting for silver-ore, but had, up to that time, been unsuccessful; nor, indeed, had we seen thus far anything that would indicate mineral wealth to any great extent." Possibly this is a reference to Jesse Ewing, who is said to have been the first prospector in Browns Hole. The Hole became a notorious outlaw hideout in the 90's. See Charles Kelly, Outlaw Trail, Salt Lake City, Utah, 1938, and W. B. Tittsworth, Outskirt Episodes, Des Moines, Iowa, 1927.

16Morris Powell, first touching them up a little, sent Clem's letters of June 8 and 9, combined as one, to the Chicago Tribune, which printed them on July 1, 1871, somewhat to Clem's subsequent discomfiture. See Jones's journal entry for July 29, 1871. The following, descriptive of Browns Hole, is extracted from that letter, both for its own interest and because it probably gave rise to the jeers at Clem's expense:

***Emerging from Red Cañon this morning we entered a beautiful valley, known by the homely name of 'Brown's Hole.' Out here,
finishing their different works to send back with Frank to Green River City. Weather warm, 92° in the shade.

June 10th. Frank will not leave till tomorrow as the Maj. wants to send back topographical work and 'tis not finished yet. We will send letters back with him and when he gets to Green River City will telegraph to Salt Lake City for mail for the party and Harrel[1], the herder, will bring it to us at the head of the Cañon of Lodore. Helped Beaman to take some pictures of camp. He gave a negative to one of the herders; it pleased him. They killed a steer for us and we will have fresh meat once more. Harrel[1] took supper with us this evening.

June 11th. Another Sunday is here but it's hard to distinguish Sunday from Monday out here; the days are all alike. We rose at 4½, had an early breakfast, it being the last meal that Frank will eat with us. He left us at about 6:00 on horseback with Harrel[1] and a pack mule and away went “Little Breeches” over the hill and out of sight. We packed the boats and started again down the Green, minus one man. Passed through a pretty little cañon a mile and a half long called Swallow Cañon on account of thousands of swallows that throng there. Camped at its mouth on the rocks for dinner. After dinner started and went down for 8 miles. Ran aground; land under a grove of cottonwoods. Fred and I went in swimming, had a gay time. “Jerked” our beef. The Maj. read Scott aloud to the party. Had a good supper. The weather warm, 97 in the shade.

June 12th. Maj., Steward and Jones went across the river; will be gone all day. Prof. went back on the hills to take observations, will also be gone most of the day. Did a big washing, mended the boat and did some sewing. We spent a very pleasant time in camp by ourselves, opened a bottle of Worcestershire sauce for dinner. The rest of the party reached camp at 6:00 or 7:00, all tired out. Had a very warm day of it, 100 in the shade.

June 13th. Broke up camp at 7:00. We had a delightful time floating down a beautiful piece of river through some splen-
did level country, hemmed in by the mountains. The 3 boats
were lashed together and suffered to float with the current while
the Maj. read us from Scott. I saw a coyote, shot at him but
did not hit him. Landed for dinner one mile above Lodore. After
dinner floated down to the head of Lodore beneath some trees.
Had supper and then off to bed.

**June 14th.** The mosquitoes were so bad that we had to sleep
on the rocks above; built a fire to keep them off. Steward and
Fred started off this morning for a 2 days’ tramp. In the after­
noon Maj., Prof., Jack and myself climbed up one of the cliffs
at the head of Lodore. Had a weary time of it, got separated
from the rest of the party; found them again after much search­
ing. We saw the beauty and gloom of Lodore. A “high falutin”
fellow said, “He that enters yon iron gates leaves all hope be­
hind.” The walls rise for 2500 to 3000 feet high. We suffered
greatly from thirst. Reached camp at 8:00, tired.

**June 15th.** Maj. and Jones went across the river to be gone
all day. Capt. Bishop went back on the hill, will be gone most
of the day. Comenced a letter to Fanny and Mrs. Stevens.
Took observations from 9:00 to 3:00, helped Prof. take [them];
read time from chronometer. Bishop returned at 3:00 just about
used up. Thermometer 104 in shade. Brought some sulphur water
with him from a spring a mile back from camp. Fred and Steward
came about ½ hour after. They had lost their grub and found
it again and lost themselves and found their way again. Had
a great time. At 7:00 Maj. and Jones came in about played out.
Had a good supper.

**June 16th.** We rowed across the river this morning while
Beaman took some views of us at the mouth of Lodore. Have
been bothered with an ulcerated tooth, a painful and swollen
cheek the consequence. Jack put up the flag on the hill back of
camp for Harrel[1] bringing our mail. Steward and myself
walked back about 3 miles. He wanted to see some rocks. Talked
to me about geology. When we were coming back met Bacon,
(Harrell’s partner), said that our mail would be in in the morning.
He and his 2 Mexicans stayed with us during the night—they
told some queer stories of their life out west, their adventures
and fights with Indians.

**June 17th.** Jack, Bishop and I had a good feast on peaches
the night before by ourselves. We sat up till 12 writing letters
by the camp-fire. This morning I went back with the flag and
field glass and writing materials to watch for our mail. I wrote
a letter to Cousin Anna. At noon I saw a man on horseback

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*Although they did not know it, camp was made near Fort Davy
Crockett, a trapper post opened about 1837 and abandoned about 1841. Its
ruins were seen by Frémont in 1844.*
coming down the valley. I went down the hill to meet him. He only had a letter each [from their wives] for Maj. and Prof.—found that our mail had gone on to Uintah. We were all disappointed. We had dinner and off we started. At 2½ ran 2 or 3 rapids that the Maj. made portages at before, 2 years ago. We stopped and took some views of the cañon. We landed at 6:00, had a swim. After supper Maj. read "Evangeline" to us while I have been writing my diary. The Maj. told me I was to have a full set of views when the trip was over; will be worth $500.

**June 18th.** We went to see a huge crack in the wall of the cañon. Ah! but 'tis a beautiful place. One winds in, around and up, while thousands of crystal drops come trickling down the rock. Steward named it "Winnie's Grotto" (after his daughter). He, Bishop, Fred, Jones, Maj., Andy, Beaman, and myself were in it. Beaman took several views of it while the rest of us sat around in it. Bishop and I sat on a ledge of rocks where the sun never shone on. I thought of the folks far away at church, wished they were here; they would enjoy it so. Maj. said, "How I wish Morris was here." The walls were from 2000 to 2500 feet high. At 10:00 we packed the boats and started down, running some bad rapids all right. In landing we barely saved the boats from being carried over a rapid by jumping out and holding her by the rope. Were wet to the skin. Had dinner on the bare rocks. We ran the rapid after dinner, shipping water badly, and then rapid after rapid till 4 o'clock. We ran 5 or 6 rapids the Maj. portaged 2 years ago. The "Canonita" crossed the river above a rapid where the Maj. had a boat wrecked last time, to take a picture. We climbed over rocks and sagebrush till we got to the right place, and then went at it. A fearful rapid boiled beneath us, falling 40 feet in ½ mile. The Maj. wrecked a boat here and 3 men were almost drowned; one left them at Uintah and the other 2 were shot by the Indians. Our boat in trying to recross, came within 10 feet of being drawn into the vortex. The Maj. gave us up and thought we were gone sure, but by hard pulling we came through all right much to the relief of the Maj. We unpacked our boats, had supper and then retired pretty well fatigued.

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18This was Disaster Falls, where in 1869 Powell lost the "No Name" and most of its equipment. The man who left at Uinta was Frank Goodman; those killed by the Indians were the Howland brothers and William H. Dunn, who left at Separation Rapids in the Grand Canyon. Here Powell had previously found relics of an earlier expedition which he thought was Ashley's; but William Manly's description of these same articles, which he saw in 1849, indicates they were not trapper equipment and had been left but a few years previous, by some unknown party of voyagers. Manly left Green River just above the Uinta's mouth; Ashley continued into Desolation Canyon before returning to the Uinta. In 1909 Nathan Galloway ran Stone's boats through these rapids without difficulty.
June 19th. We have had a weary time of it today carrying rations, &c., over rock over a high cliff and over sagebrush for a mile. We found 100 lbs. of flour left here before and an oar belonging to the "No Name" on a stump and one in the driftwood along the shore. We carried all the rations, &c., over and let one of the boats down by line before night. We are all completely tired out. Had a good swim.

June 20th. Got up at 6½, had breakfast and then let the other 2 boats down and from there let them down by line about ½ mile and then unpacked them and let them down over another fall and carried rations around. Had dinner on the rocks, repacked our boats amid a shower and started once more down the turbulent and rapid Green. Ran some fearful rapids, the water boiling among the rocks, and waves were running high. We all shipped water badly. Ran ashore to bail out. Started out after running an hour more, landed for the night on a pretty little nook in the rocks. Built a fire, dried ourselves, had supper, made our beds. The Maj. read the last of "Marmion" to us by a bright camp-fire.

June 21st. After breakfast, while Beaman was taking views of The Cliff of the Harp, we let the boats down by line, did not unpack them. Found an axe and vise that the party had left here 2 years ago. After dinner ran down a couple of miles when we came to a bad rapid and fall. We again let boats down by line about ¾ of a mile. Got in our boats again, ran about a mile and came to another bad rapid and again let our boats down. Fred and Capt. here found that they had forgotten their sketch book and compass back at the first portage this afternoon, and had to climb a cliff 1500 feet high to get them again, while we waited for them about 2 hours. We dropped down another mile and ½ to the head of Triplet Falls, a long, rough rapid, where we landed and camped for the night, as we are about played out. Will stop here tomorrow.

June 22nd. Rose at 7:00. The Maj., Prof., and Capt. started out for an all day's climb while Beaman and myself went down the river to take views of as grand scenery as the sun ever shone on. Took 7 views of Triplet Falls and vicinity, I being in some of them. Oh me, but there is a long, weary portage to make tomorrow of about a mile long. The water foams, dashes and twists among the rocks fearfully. Will have a hard time in getting the boats over. We reached camp just at dinner time. After dinner it sprinkled some but soon cleared up, and Beaman, Steward and myself went across the river to take some more views. We got 3 when it commenced to rain and we came back to camp. When Steward found he had left his scissors across the river, he and I went back to get them. The Maj. and party came up at 6:00, well tired. Have been reading Harper's
and Galaxy. Have been a trifle homesick. How I would like to spend next Sunday with them. Steward has a sore shin and is limping around camp; has made him a pair of moccasins; look rather queer. Last night Capt. was tickling me when I gave him a fearful rap with my elbow on the nose and nothing is left but a grease spot—is wearing a wax one now. We have had quite a shower which is a novelty to us. We go to sleep to dream of tomorrow.

June 23rd. Broke up camp at 7:00, dropping down a few rods to the head of Triplet Falls. Unpacked our boats and made a portage, then let the boats down by line below the falls. Loaded up again and let the boats still further down by line, unpacked them again and let them down over another fall and then carried the rations over on our backs. By that time 'twas noon. Had dinner on same ground that the Maj. did 2 years ago. Yesterday we picked up pieces of the "No Name" a piece of her bulkhead and rib; found a book that belonged to her; found an axe, a vise and some tools, lead, &c., that had been forgotten before by her. After dinner started out again, running rapids for an hour or so, when we came to what we afterwards called "Hell's Half Mile," and 'tis most an appropriate name, for the water boils and surges among 10,000 rocks and a weary portage of fully a mile to make. Beaman began taking pictures. Found that we had left the screws of the dark tent behind and so I had to go back and try to find them. Had a weary climb of it over rocks and through brushwood, sometimes wading the river along the shore. Was gone a couple of hours. When I came back found they had got the "Dean" through all right and night coming on and all completely tired out. Had a good supper, made our beds and in 15 minutes all were sleeping soundly.

June 24th. Rose at 6:00 feeling much better. After breakfast commenced making the portage. We let the "Nell" down a little way, then unpacked her and carried her load around below the principal fall and then let her down by line. She rolled over once or twice before getting through, receiving some hard bumps. Finally, when down, loaded her up again and let her down about ½ a mile by line, then unloaded again and carried her load over the most infernal road that anyone ever traveled. I slipped under a heavy load and bruised my leg severely; thought I had broke[n] it for awhile. We then let her down by line again and loaded her up and then ran through a heavy sea and brought her up alongside of the "Dean." On returning around the bend saw that our morning's camp was in full blaze. We hurried back to save a few things that were left there but found them all right, but were just in time. We let down the "Canonita" by the same process. Oh, but we worked. We had dinner on a sand bank and then started out again, running some heavy rapids. The "Nell"
struck a rock and came very near capsizing, filled with water but came through all right. We ran down to the head of another rapid and camped for the rest of the day. 'Tis the 24th of June and I expect they are having a gay time at Naperville. I wish I was there for a day. I wonder if they think of me away out here doing harder work than I ever did before.

Ah me, but I will be glad when another 24th rolls around and perhaps I will see the dear old home again. I have just about used up my baseball breeches running through the bushes. Ever since entering Lodore have gone to sleep with the roar of some fall or rapids in our ears. The cañon walls have varied from 2000 to 3000 feet high, mostly of red sandstone, and here the gray is appearing on top of the red. The red sandstone contrasts prettily with the green pine and cedar trees growing here and there on their summits. The river winds and twists so much that one cannot see more than ½ mile of it at a time. Had rice for supper, 'twas good. Mended my breeches, wrote my diary, stripped a tree of its bark and made a nice soft bed. The Maj. is reading "Scott" aloud. Will be through with Lodore tomorrow I hope.

June 25th. Rose at 7:00. After a hearty breakfast Beaman, Steward, Fred, Jack and myself started for a long hard climb up the side of the cliff to take some pictures of Leaping Brook. Got to it at 10:00—'twas a picturesque place, a good deal like Winnie's Grotto. While taking pictures there, was thinking of the folks very likely at church at that time. After taking 3 or 4 views started for camp; reached it just in time for dinner, after which made a portage over the rapids below by letting the boats down by line. We then got into our boats and once more have had a ride in them for over ½ a mile without making a portage, although we ran a number of bad rapids. In going through one, the Prof.'s boat filled almost and we ran fair and square on top of a rock and very nearly went over, but did not. At 3½ came at Alcove Creek, the same place that the Maj.'s party 2 years ago were burned out of their camp and forced to run the rapid below, losing a good deal of clothing and their mess kit. Bradley crawled out on a rock and cried, "hand me a boat." The Maj. was down at the falls at the time and the first thing he knew or saw was the boats going it over the falls. They picked him up below there. The remains of the fire are still visible. We took 3 views of Alcove Creek and then started down again. In coming into it my hat blew off and down it gaily floated over the falls, and that is the last that was seen of it. Ran the rapids and several more all right and at 6½ landed at the mouth of Bear

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28See Bradley's account of this experience in his journal entry for June 17, 1869, vol. XV, this Quarterly.
River, a stream ½ the size of the Green. Will stay here a couple of days to rest, take topography, &c. Are camping in a pretty place, same that the Maj. did 2 years ago. We have passed through Lodore, one of the worst of canons. Two and ½ miles ahead of us is Whirlpool Cañon. The Maj. has been catching fish; is quite successful. Bishop killed a goose. We are all tired and hungry. Last night we could see the glare of our previous camp-fire; ’twas a pretty big one and lighted the sky for miles around. We have passed the red sandstone with green trees and have come to the gray up and down walls.

June 26th. We found our camp this morning very cool, comfortable and shady, but very dusty and destitute of wood. Made sticks for our boat which we were sadly in need of, Beaman refixing his chemicals and the rest of the party busy at something. Spent the afternoon in reading. Read in the March Galaxy a story called “Overland” taken from the Maj.’s lecture of his going down the Grand Cañon. Rowed the Maj., over the Bear River. He went to see how it looked around the “knife blade” in Whirlpool Cañon. In the evening Steward, Bishop, Fred and myself had a row up Bear River but it being time for Bishop’s observation we came back again. I started out at 9:00 with Maj., Fred and Jack and went up Bear River for a couple of miles. We had a most delightful time, there being a bright moonlight and Venus just showing herself over the edge of a tall cliff. Now we came to a place where the rocks overhung the water and again we flitted by some beautiful green island. We bent and twisted here and there while every now and then we would hear some beaver slide off the bank into the river. The Maj. sang and recited poetry and said how Morris would have enjoyed such a ride, and I thought how much the folks at home would have enjoyed such a ride away out here in the very heart of a wilderness. There are 5 high buttes that rise up from the shore and one that looks for all the world like Brigham Young’s “Tabernacle” at Salt Lake City. After we had rowed up we floated down. “Oh, but my soul was filled with joy.” We reached camp at 10:30 and after a smoke and talk we went to bed to dream of home.

[June] 27th. The Maj., Jones, Beaman, Jack and Andy have decided to go up Bear River to take views and have a look at the country. Took the “Dean,” while Steward and I thought we would take a tramp back to Alcove Brook to geologize, &c. We started out at 8:00 with gun, 4 biscuits and a canteen of water. Had a nice climb and good view of the country.

*From Lily Park in Colorado, Bear River, now called the Yampa, flows through a deep, beautiful canyon. Powell had previously explored part of its open upper course and wished to connect his survey, but was unable to do so.
from the top of the wall of the cañon from 2500 to 3000 feet high. At 11:00 our water gave out, it being necessary for us to go down to the river. We tried to get down but couldn’t. We walked along the top for miles before we could get on the first “bench” and then had to come back and follow it down till it dips into the river. It was a hazardous and dangerous trail, the bench was narrow and sloping and we at times were compelled to hang on by tooth and toenail to keep from falling off a distance of hundreds of feet. We were suffering from thirst and at 2:00 we sat down under rocks, on the shady side of course, and ate our 2 biscuits apiece with sugar and then started on again. We could see the river far below us but no way to get down to it. Still we kept on, slipping now and then but still on. At last at 4:00 o’clock we reached the river. We laid down full length and drank our fill. Steward wanted to measure the different sections of the wall for geological purposes, and so with a chain we started up a gully that led to the top of the cañon, clambering over rocks, holding on to bushes, we slowly made our way up till we came to within 150 feet of the top and we could go no farther. ’Twas a bitter disappointment for it was getting dark and we were tired and hungry, but there being no help for it we started down again and finally reached the river bank at dark and made our way painfully through rose bushes, over rocks, and now and then wading in the water up to our arms. At last we came to where the wall rises perpendicular from the water. We were up a stump for we could not climb and we could not go on and camp was only about 3/4 of a mile down the river. The moon was behind the opposite wall and 10:00 o’clock at night, and we were just about played out. We finally made up our minds to leave my gun and his [Steward’s] haversack and pull up a cedar tree and float down to camp, and come up with a boat in the morning for the gun and sack. We hunted around, found a tree, took off our shoes and stockings, tied them on, and launched the craft, we swimming by the side of it, holding on with our hands. The current was swift and we were feeling all right when suddenly we ran into a whirlpool close to shore. Steward being a good swimmer, generously let go of the tree for it would not support us both. He was sucked under by the water 3 different times and came almost losing his life. The tree which I had hold of was carried under, twisted and turned around, and I had to fight hard to keep hold of it. Lost my hold several times but regained it, but finally it floated clear of the eddy out in smooth water and I was all right, but I felt a keen thrill of agony when I thought of Steward. I could see nothing of him but his hat floating around and thought he had sunk to rise no more; but to my joy I saw him suddenly come
up again and begin to swim toward me and at last he was safe
with [me] holding on to the tree, but minus his hat. We floated
down ¼ mile farther till opposite camp and then made for shore
all right and sound, but cold, wet, tired and hungry. They built up
a big fire for us, gave us a good warm supper, and after drying
our clothes we went to bed at ½ after 11:00; slept with Fred before
going to rest. I returned thanks to kind Providence for keeping
me safe through the eventful day and soon dropped off the [to]
sleep.

June 28th. Did not get up till 7:00, and felt stiff and sore
enough. After breakfast Steward and myself tried to row a boat
up to get our things, but gave it up as impossible. We had to
walk back about 3 miles before we could get down to the river.
I left Steward there while I went down the river to get the things.
After a tramp among thickets and rocks found gun and sac[k]
all right. Found gun sadly marred from being banged among
the rocks the day before. Went back to Steward, climbed up
again into the outer world, took a final look at the eddy, and
reached camp in time for dinner. We brought part of our raft
down with us and each will preserve a piece of it to remember
the night with. In the afternoon read and layed down to rest for
I was used up and so was Steward. Went to bed early. Maj.
and party not here yet.

June 29th. Passed a miserable night, could not sleep much;
feel dull and stupid. Prof. and Steward went on a tramp this
morning, came in at noon, then Fred and Steward went out this
afternoon to take a look at Whirlpool Cañon. Took time [obs-
ervation] for Capt. 4 times. Fred, Capt. and myself took a
good bath in morning. There are only 3 of us in camp today.
We have had good meals since the Maj. has gone. Bishop is a
capital cook. Helped Fred to wash and wipe up the dishes. In
the afternoon help the Capt. (after going across the river to
measure the height of the different buttes). Fred and Steward
came in at 6:00. After supper Fred and I took a row up Bear
River, he rowing and I steering. We had a delightful time, a
bright moonlight, &c. We talked of home and friends so dear,
far away in the States. We came in about 10:00. I am just about
getting over my tramp with Steward. The Maj. and party did
not come in today; do not know what's the matter.

June 30th. We all got up pretty late and after breakfast
Prof., Bishop and Steward started out on an all day's tramp
leaving Fred and myself alone in camp. I spent forenoon in
writing my diary up for this week. Took a dose of pills; do not
feel well. Took barometrical observations from 12:00 to 4:00.
Fred tried his hand at making pies for dinner; they were a suc-
cess. Read, slept, &c. At 6:00 the Maj. and party came in tired
and half starved. At 7:00 the rest of the boys came in about used up with a weary climb and the party is once more re-united. The Maj. went up about 15 miles, had a hard time of it wading and pulling the boat through the rapids, &c. Took 9:00 observation for Capt. After supper Maj., Prof., Bishop, Steward and myself rowed across Bear River to a sandy beach and had a good bath. Came back and all tumbled into bed to sleep.

July 1st, [1871]. After breakfast this morning Beaman, Fred, Steward and myself with the whole photographic machinery climbed up the canyon wall about 1000 feet high and took some geological pictures. Got back in time for dinner after which I tried my hand at making a picture or 2; had fair success. I carelessly spilled ½ bottle of collodion. Read Shakespeare. We are camping at Echo Park, which echoes finely.

July 2nd. Sunday morning again. How swiftly time flies. A year will soon pass and I will be at home once more, D. V. [Deo volente—God willing.] 'Tis only on Sundays that I get homesick. I long to be at home then to spend with the folks an afternoon as in days gone by, so calm, so quiet, so sweet; to worship once more sitting in the mellowed light that comes streaming through the stained windows of the St. John's. Ah well, I know the folks are thinking of me and wishing I was at home. Last evening we saw some beaver swimming down stream. Several shots were fired and I think that one or two were hit, but we did not get any. Steward gave us (ie., Bish, Jones, Fred and myself) a lesson in shorthand. This morning have been reading Tempest, Two Gentlemen of Verona and Merry Wives of Windsor. I like them well. After dinner the Maj. said to get things ready to pack as we leave early tomorrow morning. Am glad of it, we are all tired of this dusty camp. I cleaned out the boat and finding she was warping, filled her with water.

July 3rd. Up early this morning and after breakfast packed the boats the "Emma" and "Nell" going on down and leaving the "Canonita" behind to take pictures. Beaman and I went back on the mountains and took 2 or 3 views. Came back, packed up and dropped down ½ mile opposite the "Blade," landed and Beaman, Andy, and I made our way through briars, rose bushes, &c., for about a mile and took some more pictures. Came back to the boat at 12:00 and had a cold lunch of biscuit, sugar and sowbelly. I enjoyed it, 'twas so picturesque. We then started running several rapids, came up to the other boats at 2:00 at the head of a rapid. We let down by line all O.K. Found that

Dellenbaugh says: "They were all rather cross, the only time on the whole expedition that such a state existed." Clem indicates there were other occasions.

The river makes a "U" turn, flowing on both sides of "The Blade," an appropriate name now changed to Steamboat Rock.
they had saved us no dinner; were disappointed. We all started out again, landing 2 or 3 times to look at rapids ahead but we ran them all in safety, shipping some water. This morning we left the Cañon of Lodore and entered Whirlpool Cañon. Maj. says 'tis not near as bad as it was when he was here before. At 3:00 we saw some sheep up the cañon walls. We landed and tried to get them but soon gave it up as they were too "wormy" were not good to eat, &c., &c., &c. Dropped down ½ a mile farther and camped on same place as did the other party 2 years ago [on June 21, 1869]. Found a keg of powder that belonged to the "No Name." There is a splendid creek flowing by camp of melted snow water that comes down from the mountains.*

July 4th. Was awakened by Fred shooting his gun off in honor of the day and then Thompson and Bishop joined in. After breakfast Prof., Jones and Andy started for an all day's tramp by climbing up the creek and back onto the mountains. Cleaned my gun inside and out, read Shakespeare nearly all day. Fred is cook today, I help him a little. After dinner Steward and I went down the river for a couple of hours to geologize. Had to wade to get back; had a pleasant time. Thought of the folks at home. I suppose they are enjoying themselves. When we came back helped Fred to get a supper; it was gay—canned peaches, candy, syrup, nice biscuits, gravy, ham, stewed apples and tea. I climbed the hill back of camp to see if the boys were coming in but did not see them. They came in just as we finished, tired out. After supper we cut boughs to make our beds softer. The Maj. told us about his being here before, &c., and at 9:00 we all turned in.

July 5th. Rose at 5:00 and broke up camp at 7:00 and once more are on the way down the Green River. Ran 4 bad rapids and made one portage by letting down by line this morning about ½ a mile. At 11:00 as we pulled up to camp for dinner we saw a couple of mountain sheep on the other side. Several shots were fired at them without effect however, and Capt., Jones, and "Bismark" [Hillers] took the "Nell" and rowed across to the other side and tried to get them but 'twas no go and had a hard tramp for nothing. Just above the portage this morning we saw a bear's track not 2 hours old. Bish and Steward followed them up away but did not get a sight of him. After dinner let down by line twice and ran several rapids, one bad one at the end of the cañon.

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28 Mountain sheep were often infected with liver flukes. When a hunter was unsuccessful he frequently excused himself by claiming the meat was "wormy."

29 Camp was in Jones Hole, named for S. V. Jones, watered by a stream named for Bishop. It is still one of the hidden beauty spots of the West, seldom visited and then only on foot or by boat.
After running it we entered Island Park, a beautiful place similar to Brown's Park only that the river here almost loses itself among the islands that throng it. The low hills, the level grassy plain with here and there a peak in the distance, Whirlpool Canyon at the head and Split Mountain Canyon at its foot goes to make a lovely picture. We lashed the boats along side of each other and floated down away, singing songs, talking, &c., but the river becoming narrow and shallow, soon separated. The "Nell" ran aground and we passed her. Landed once or twice but not finding a good camping place ran down to the head of Split Mountain Canyon and camped under a grove of cottonwood trees.

July 6th. Finished "Twelfth Night." I have been patching all morning. The Maj. concluded to camp here a day or two. After dinner Beaman, Fred, and I rowed up stream 4 miles, landed and walked another mile to the foot of Whirlpool Canyon to take a picture of it. Got back to camp at supper time and learned that the Maj. had made up his mind to go on to Uintah (thereby saving a week or two) and do up his business. Will take Bishop, Jones and Jack in the "Emma," the rest will follow at our leisure. He expects to reach the station (30 miles from the river) in 3 days and will immediately send an Indian runner to Salt Lake for mail, and so sat up till 11:00 o'clock to write to Morris. Also learned that Beaman, Prof., Steward, Andy, and myself were to climb the mountain (across the river) 3000 feet high to take a view of Split Mountain Canyon and that we were to start at 2 or 3 o'clock. I am to have charge of the barometer in the meanwhile. Wrote to Morris by the camp-fire all alone.

July 7th. We did not get up till 4:00; had breakfast. Saw the Maj. off and we started across the river leaving Fred in charge of camp and dinner. Had a long, hard, steep, rough climb. Reached the top at 9:00 and found it—the weather—so hazy and smoky that Beaman could not take a picture. Fooled around there till noon, and concluded to leave the boxes up there till tomorrow and go down, which we did in short order, reaching camp at 2:00. Had dinner and after that read, slept and mended my breeches. After dark commenced raining, and during the night the wind was blowing so that it scattered the fire around the camp, but we soon put it out. While we were upon the mountain this morning could see the Maj. and party through our glasses making portages in the canyon. It does one good to climb a mountain; he feels so much nobler and sees more of God's earth. It makes him feel as if life were worth the living. One can see nothing down on the river but canyon walls.

July 8th. After breakfast Beaman, Fred and I crossed the river again. We climbed the mountain "steep and high." We took several views of the surrounding country and started down
with the boxes on our backs and reached camp at noon. I had a little spat with Beaman in coming down but 'tis all O.K. now. After dinner Beaman, Prof., and I went back a mile or so to take another picture. While out there, there came up quite a shower; we got under the rocks in kind of a cave and waited till it was over. Took our pictures and got back to camp at 5:00. Have been writing up my diary for the last 4 days since, and now Andy is calling "Sup." We will start out down the river in the morning. Fred shot a hawk and Prof. a snake.

July 9th. Started out after breakfast at 8:00 and had only gone a short distance when we saw some mountain sheep. We landed, fired several shots at them but as usual did no harm. Soon we came to a rapid and a portage by line. Found a note on a R.R. tie from the Maj. We did nothing but make portages, lifting the boats over rocks till noon and the same thing in the afternoon, in the water up to our waists and arms most of the time. The "Canonita" had a hole put through her in being let down over a fall. Beaman took some views of the canón. In the evening we camped under some cedar trees on a sand bank. Have only come 2½ miles today. We feel far more tired than we have done in many a day. The Prof. is not as good a hand at making portages as the Maj. Read Shakespeare.

July 10th. This morning Beaman and I went to take a picture of a cave about ¼ mile from camp on the river’s bank. 'Tis 25 feet high, 4 feet deep and half filled with water. Went inside and took view looking out. Steward and Fred came down to look at it. There are several caves in this canón—the reason that the Maj. named it "Cave Cañon" his other trip, but has changed his mind and called it "Craggy Cañon." On reaching camp found that Andy had burned up a sack, some bottles containing chemicals and a vest belonging to Beaman. Not much loss, however. Read Shakespeare till dinner time after which we again started out making portages and running 2 of the most dangerous rapids on the entire trip. At night camped on the bare rocks just at the head of a rapid and portage. Have made 5 miles this afternoon.

July 11th. Beaman and I went back of camp, climbed a steep cliff and took some views of the crags of Craggy Cañon. When we came back to camp found that the boys had let the "Nell" over the rapids and we soon dropped the "Canonita" over. It being almost dinner time camped on a sandbank. Beaman took a couple more views of the cañon. I devoted myself to

**Ties for the Union Pacific were cut on the upper Green River and floated down to Green River, Wyoming. Those not recaptured were found at various points below.**

**The party was, however, already calling "Craggy Canyon" by its present-day name, "Split Mountain Canyon." See Clem's entry for July 5.**
Shakespeare till dinner, after which we again took to our boats and once more we float down the Green River running a few rapids and only letting down by line once. At 5:00 bid a lasting farewell to Craggy Cañon, the worst one in work, &c., of any we have yet passed, and camped a mile down in the Uintah Valley in a grove of cottonwoods under a sandstone cliff. About ½ mile from the river Steward and Prof. were looking after geology along the cliff. They found some picture writings of the Indians that bears evidence of age. We were soon gazing at the rude scrawls, wondering and conjecturing who and at what time they were placed there. After supper we sat around the camp fire talking, smoking, &c.

**July 12th.** After breakfast Steward and Prof. went out for an hour to geologize while Beaman took a picture of the picture writings on the cliffs, after which we started running a rapid now and then. Read Shakespeare in the boat. Shot a goose. Saw 4 or 5 wigwams and camped at 1:00 under some cottonwoods. Have made 12 miles this morning. Steward and Fred crossed the river and started on a tramp. Prof. and I took a walk to see the wigwams, found them deserted. Saw fresh deer tracks. Did some mending and washing. Took a bath. Steward and Fred came in at sundown. On going to bed we saw (what afterwards proved an Indian camp-fire) a light about a mile off. Some thought it was Venus and some a camp-fire. There was quite a discussion about it for an hour but finally we dropped off to sleep with it still unsettled. We had our blankets spread under a tree and during the night were awakened by a crack and then a crash caused by a huge limb breaking off. For a few moments flying shirt tails were all the rage but fortunately no harm was done.

**July 13th.** While we were at breakfast this morning heard someone crying “How! How! How!” and on looking up saw a mounted Indian on the brow of the hill coming toward us. We immediately surrounded him, shook hands with him. We gave him some breakfast. He was painted and dressed up in the most approved fashion. Told us mostly by signs that he had a squaw about a mile away and that they were going to Uintah. We gave him some biscuit [sic], sugar and tobacco, showed him our guns, boots, &c. Said that he would bring his squaw down to see them. Mounted his horse and rode away. Our boat was not quite ready to start. The “Nell” started out first, and about an hour afterwards and just as we were shoving off, up rode the Indian with the squaw behind him. She was only about 15 or 16 years old, rather good looking but very shy. Had on a fancy petticoat worked with beads, &c., and a belt covered with pounded out money. After looking around awhile, smoking the pipe of peace and shaking hands, we parted, he
riding away to his wigwam and we go down the river. Caught up with the other boat \( \frac{1}{2} \) a mile down and together we started on down and soon came to the Indian’s wigwam. After fooling around found that they wanted to cross the river. They had 2 ponies, one with a fearful sore back. They drove them across the river and putting their traps and themselves on board soon landed them across the river or “pah,” and again bid them farewell. Made good time running 15 miles before dinner. At about 4:00 o’clock was hailed by some Indian squaws and on landing found a couple of old hags with 2 or 3 dozen papooses of all sizes and ages, some naked and some with parts of a blanket wrapped around them. The men were out hunting. They had seen the Maj. when he came down, asked if any more of us were coming. We gave them some tobacco and left them gazing after our “water ponies” in amazement. Went into camp at 6:00 on the bare rocks under a cottonwood tree. Have made 25 miles today.

July 14th. Started out this morning for Uintah [River] or bust, but ’tis 45 miles away with still water all the way. Left camp at 7:00 rowing all the time and camped for dinner at 12:00, making 20 miles, Prof. and Steward geologizing in the meanwhile. Started out again at 2:00. At 3:00 there came up a heavy wind filling the air with dust and dead against us, causing a heavy sea and making rowing out of the question. Hauled up against the bank and waited awhile, and the wind going down a little, started on, running aground now and then on a sandbar, but still on. We grew discouraged at times but the thought of our mail at Uintah cheered us and so kept us rowing against wind and wave. Did not stop for supper but eat [ate] a biscuit and some sugar in the boat. At 7½ passed the ferry of the old stage route and \( \frac{1}{4} \) of a mile farther down came to the mouth.

In July and August, 1861, Captain E. L. Berthoud, guided by Jim Bridger, explored a new wagon road between Denver and Provo, Utah, which crossed the Green River here. For various reasons the route was not adopted by the Overland Stage Company, but renewed interest was taken in such a road in 1865 by an “Overland Wagon Road Company” in which Ben Holladay and General B. M. Hughes were the principal figures. Hughes traveled to Salt Lake City, and on June 3, 1865, accompanied by a detachment of the California Volunteers numbering 160 men and 22 wagons set out for Denver along the Berthoud-Bridger trail of 1861. Four months were spent making the route passable for wagons, and it was also thoroughly explored for the Pacific Railroad. Berthoud Pass was impracticable for railroads, however, and it was not until 1925 that this route, approximately that of modern US 40, came into general use. See L. R. Hafen, “Pioneer Struggles for a Colorado Road Across the Rockies,” Colorado Magazine, March, 1926, vol. 3, pp. 1-10.

In Clem’s letter of July 17, 1871, printed in the Chicago Tribune, August 28, 1871, he writes that the party were encamped “on the old stage route that follows Frémont’s trail from Denver to Salt Lake; the road comes winding down the valley to the ferry. The boat formerly used to carry freight and passengers from bank to bank is now sunk in midstream, the wreck being partly visible.”
of the Uintah [Duchesne] River, but 'twas so small a stream
and seeing no one there after firing our signal shots and getting
no reply, thought it could not be the Uintah River and moved
farther down, firing signal shots now and then. At 9:00 we con-
cluded to camp and wait till morning. Made a fire and boiled
some coffee. Spread our blankets and tried to sleep but were
so tired with our 45 mile row that some of us found it almost
impossible. I was sick at my stomach, Beaman with headache,
and Steward sick all over. We tossed, groaned and wished
morning would appear.

July 15th. The Prof. started out this morning to find out
where we were. Soon found White River and knew that the
Uintah came in before that did\(^8\) and so came to the conclusion
that the small stream we passed the night before must be it,
and so we must pull upstream with loaded boats and blistered
hands for 2 miles. We hunted around the mouth of the Uintah
but could find no trace of the "Emma" and pulled back to the
old ferry, and there found a pole sticking up in the mud and
some writing in the mud saying to look in a can behind a tree
for a note. Could not find said can by the tree, but on hunting
around found it in the bushes where the wind had blown it,
with a note inside saying that they had all gone up to the
Uintah Mission [Agency] and for us to wait here till they
came down. We are disappointed at getting no mail as yet but
we are here, that is one consolation. We camped under a cot-
town tree, built a fire, had a good dinner. Have finished
"Love's Labor Lost." Do not like it. Have written up my diary
for the last 3 days. Have emptied our boats, hauled them up on
the bank, turned them over and fixed them. As we are eating
supper we heard our signal shots fired and knew that the boys
were returning from the Uintah Agency. Sure enough, in about
10 minutes Jones and Bishop came riding in, one on a horse, the
other on a mule, bringing news and letters from home. I received
2 from Morris, one from Lily and Aunt Annie, one from Belle,
one from Cousin Lou, and one from John Richmond. Ah, but I
was glad to hear from home. We spent the rest of the evening
in reading letters and in talking over the things that had hap-

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\(^8\)As late as 1911 the Uinta (now renamed Duchesne) came in 1½ miles
above White River, but at present their mouths are nearly opposite. The
delta of White River was a famous Indian winter camp. Here Kit Carson spent
the winter of 1832-33. At this point the Old Spanish Trail crossed previous
to 1830. On this delta Dr. Albert B. Reagan discovered the ruins of an old
adobe fort. The location is indicated on old maps as Ft. Robidoux. Antoine
Robidoux's inscription in Westwater Canyon, dated 1837, states he intended
to "establish a trading house on the rivers Green (Vert) or Uinta (Winte)."
His main post was built on the upper Uinta near present White Rocks Indian
Agency, but he is believed to have had a temporary post here. Excavations
show this adobe fort to have been occupied but a short time.
pened to each other since we parted at the head of Craggy Cañon. The Maj. started for Salt Lake on Thursday in person."

July 16th. Got up early and reread my letters. After breakfast we decided on moving our camp to the other side of the river and taking up our quarters in a log house. We soon packed our boats and had them across the river. Found the cabin almost new, one room, 2 doors and windows, situated on the brow of a hill commanding a lovely scene, a level stretch of prairie, the low foothills and then the Wasatch Range away to the south and west, while on each side heavy growths of cottonwood relieved the otherwise monotony of the scene. The boys moved the things to the cabin and I helped Beaman to pack his chemicals, &c. We fixed up some tables in the afternoon and some went to writing and some to reading. I read Shakespeare. There is a swallow’s nest in a log over our head with 3 little swallows in it. The old ones were frightened when we first came but are getting to be quite tame now. We spread our blankets out of doors for it seems stifling inside the cabin.

July 17th. This morning Beaman and Thompson decided to go to Uintah this afternoon riding the animals back. I filled the boat with water so she would not dry up. They are to send the rations down by the trader [George Basor] at Uintah in consideration of $10.00. The agent at Uintah, a Presbyterian minister, [J. J. Critchlow] has gone to Salt Lake City and kindly left orders “that if Maj. Powell’s force should come that no government teams should be employed in bringing down the rations.” ‘Tis some 40 miles from the Agency to the river. When Basor comes with them I am to ride back with him. In the afternoon Jones and I ferried them across and helped them pack their things and bade them good-bye and saw them off. In the meanwhile our boat was blown upstream, but soon it came to shore and we rode back again. After supper Fred and I had a delightful walk over the prairies under starlit sky. Came in about 9½ and slept together under one blanket.

July 18th. After breakfast wrote a letter to Morris; took me about all day. We built a shade for Andy to do his cooking in, in a grove west of the house. Found 10 or 12 wickiups scattered around. In the morning Fred and I went hunting, killing an antelope. We went down to the banks of the White River, got back in time for a good breakfast with appetites sharpened.

July 19th. Wrote a letter to Joe Kochly and one to Johnny Richmond. In the afternoon commenced cleaning glass for Bea-
man. In the evening saw a gorgeous sunset. It threw a halo of glory over the Wasatch.

July 20th. Cleaned glass nearly all day. Capt. wrote a letter to Morris. Sent some flowers to Miss K. R. Fred, Jones and Andy seeing some antelopes went out to shoot some. They came in shortly looking like boiled beets. Andy fired 3 shots at them to see how fast it would make the deer travel. It has been threatening to rain but 'tis about passed away. Wrote up my diary for the week. Expect rations tonight; they did not come however. Feel rather blue. Do not like to stay in camp, rather be on the river. Played leapfrog. Capt., Fred and I ran a race, ran about ½ mile and was lucky enough to come out first best; Fred fell down. In the evening we 3 had a pleasant ride up the river, saw another glorious sunset. It rained during the night. Fred woke up in his sleep, caught my leg, said "look out, here is a big white snake making for you; I ain't asleep, I know what I am about; if I let go it will bite you." We woke him up and had a good laugh at his expense. We take his gun from him nights for fear he may shoot us in his sleep; he always goes for it.

July 21st. The rations came in at 11:00, brought in by Mr. Basor, trader at Uintah. Jack came in with them in a 4-horse wagon. I am not going to Uintah; am disappointed. Received a letter from Beaman saying that he wanted dark tent set up, also negatives, &c. Sent out several instruments to Salt Lake City. They will lighten the boats. They brought down some potatoes, lettuce and turnips from the Indian garden at Uintah; they were gay. Basor took dinner with us, told us some of his experiences with the Indians while staying out here. Went back after dinner. Did not have time to write Aunt Anna or Cousin Lou. Sent 3 to Morris, one to John Richmond and one to Joe Kochly. Was intending to write to Aunt Anna, Cousin Lou, from Uintah; will write to them however from here but there is no telling how soon they will be mailed. Asked Beaman to send some views to Morris. There came up quite a shower in the afternoon and continued all night. Fred slept with Jack, his bedfellow, so I slept alone. Oh, but it was a gay thing wrapped up in my woolen blankets lying on a buffalo robe with rubber blanket and ponchos over all, as comfortable and as snug as you please while listening to the "patter of the rain upon the rubber." The rest of the boys went into the cabin when it commenced to rain but I woke up in the morning as dry as a duck.

July 22nd. Copied the barometrical observation for Capt.; took me all forenoon. In the afternoon, it being showery, read most of the time till I heard the welcome sound of "sup," after which we carried the rations from the boats to the cabins for fear of their getting wet, and of prowling Indians. I then emptied
the "Canonita" of water, cleaned her out and fixed things up generally. Did not help the Capt. with his observations. Spread my blankets out of doors and soon was dreaming of home so far away.

July 23rd. Sunday morning again—time flies fast. A year will soon roll around. I do not like staying in camp, it gives me the blues. Ah me, but I would like to be at home this morning and spend a quiet afternoon with them all at home. Have spent the day in writing a letter to Aunt Anna. A wind storm in the afternoon, dust dirt cheap. Capt. and Andy had a time with the bird nest. As soon as one bird was put back another would fly out again. Jones read Jack Sumner's diary. I wish I could write as good a one as he does. Cleaned my gun. Commenced a letter to Cousin Lou. We had codfish for supper, tasted good. Mosquitoes bad.

July 24th. Capt. Bishop, Steward and Fred started out this morning for a tramp up White River to Goblin City, the bed of a sunken lake. Lent Capt. my gun. Polished 60 glass today. Our party is now reduced to 4—Jones, Jack, Andy and myself. Andy got us a good dinner—codfish and stewed apples flavored with cinnamon. Windstorm in afternoon. Jack presented me with a new pair of moccasins of his own manufacture made from skins got at Uintah. Jack and I bunk together for awhile.

July 25th. Had a time with Capt.'s Spencer. Fixed it this morning. Soaked and fitted my moccasins to a caraham [sic]. Finished cleaning the 100 glass Beaman sent down. Read Shakespeare. We all took a good swim at 8:00.

July 26th. Read in forenoon, studied in afternoon. Saw a drove of antelopes, of course all "went for them." Think I could have killed one but the cartridge hung fire; was only a short distance from them. Do not like the Capt.'s gun as well as mine. We came in at 4:00, cooked supper. It commenced to rain but Jack and I, supplied with plenty of rubber blankets, slept sound and dry. Jones and Andy did not fare as well, got wet.

July 27th. I helped Jones and Jack to caulk the "Emma Dean." Read. A hard shower came up in the afternoon; had a sweet time in the cabin, the rain came down through the muddy roof, dripping on things on the table; no damage done. Jones went across the river to take topography, did not accomplish much. He has lost the respect of the whole party—he is a fraud. Fred, Steward and Capt. came in about 8:00 from Goblin City—the expedition was a "bosh." They traveled some 60 miles on

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88Goblin City was first described by W. A. Ferris in 1834. It was 40 miles upstream. See Steward's account of the three men's experiences, this Quarterly, p. 208.

88Others in the party disliked Jones for his overbearing manner, but his work was competent and he left an extremely well-written journal.
the White River on a raft, running rapids, &c., saw game but
did not get any. The Capt. says my gun’s a splendid one. Ex­
pected the Maj. and party in tonight.

July 25th. Cleaned the Capt.’s and my rifles. Wrote up my
diary. We are all getting sick of staying here and are wonder­
ing why they do not come down from Uintah. In the afternoon
Fred and I started out for a hunt, did not see anything. Coming
back met “Bismark” breaking [in] his moccasins. Lent him my
rifles. After supper played ball, leap frog, &c.

July 29th. Reread my letters from home. Read, &c. We
have ironed the keel of the boats, caulked them, &c.—a good
thing. Capt., Steward, Bismark and myself rowed down to the
mouth of the Uintah River to get fresh clean water; the Green
is a fearfully muddy red, the Uintah not much better. Found
part of a human skull. Shook a snake out of my blanket this
morning; have killed about 5,000,000. The Capt., Steward, Jones
and myself were having a game of euchre; we suddenly heard
a shout across the river. We instantly dropped cards, ran down
to the river and saw an Indian on the opposite bank. We rowed
across. He told us 2 “Amerikats” were behind and soon we saw
the Prof. and Beaman coming in on horseback driving a pack
mule before them. They brought us mail. Received 3 from
Morris, 2 from Fanny, one from Mrs. Stevens, and one from
Geo. Van Nest, also one [Naperville] “Clarion.” The other
boys received a few papers each; they could not bring all the
papers, &c., had too much to carry on horseback that was neces­
sary. Also information that pack train could not find the Dirty
Devil and so Maj. has gone as guide for it. We will meet
him at Gunnison’s Crossing, 50 or 75 miles this side of the Dirty
Devil. We sat up till 9:00 or 10:00 reading letters, &c. They read
Morris’ letter to Chicago Tribune; they thought it well written. We
have concluded not to send letters to Uintah for there is no
telling how soon they will go out. When we meet the Maj.
can send mail to Salt Lake at once. Beaman sent some prints
to Morris. The Indian stayed with us all night—’tis “Yank’s”
brother.

July 30th. Rose early this morning, reread all of my letters.

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*Having discovered the mouth of the Dirty Devil (Frémont) River, a
previously unknown stream, in 1869, Powell the next year hired Jacob Hamblin,
Mormon scout, to explore it and find a way to bring supplies to the Colorado.
When he failed, Powell employed Capt. Pardyn Dodds, who with Hamblin
and Walter Winsor of Pipe Spring, made another unsuccessful attempt.
Marion J. Shelton and “Indian Yank” made a third, which also failed. One of
these expeditions started at Gunnison crossing and crossed the San Rafael,
but turned back too soon. Powell finally bought supplies in Manti and took
them to Gunnison Crossing (Greenriver, Utah), as noted later.

*This is the letter quoted in footnote 16, above. See Jones’s comment on it.
p. 54.
papers, &c. After breakfast Yank's brother left us after he had begged everything he could. He wanted some medicine; gave him some to make his eyes well, then he said he did not want it. We rowed him across the river, helped him catch his horse and saw him off. Jones, Jack and I rowed down to the Uintah River to get some fresh water. Have been reading all day long letters, papers, &c. On going down to the river at about 3:00 saw an Indian and squaw on the other side. Bish, Steward and myself rowed across and found it to be "Douglas' Boy" and squaw, the same couple that we met coming down the river. We brought them across in our "water pony." We named the squaw "Lissie"; was timid in the boat, thought we were going to tip over. She had a soft musical voice; they "took" supper with us after which we rowed them across the river to their camp where their horses were and left them alone in their glory. From all we can make out of them they are enjoying their honeymoon, and further they have had an elopement, the squaw having been promised to another brave, but not loving him as a wife and loving this one better, eloped with him. The other brave has threatened to kill him if he ever meets him and hence he has left the White River Utes and is wandering about from place to place. Fred swapped a paper of vermilion for a beaded cap box. Capt. gave 50 caps for a hair ornament beaded. Capt., Steward and I had a row up the river in the evening.

July 31st. Andy is under the weather this morning so Capt., Fred and myself got breakfast. Brought the Indians over again. Steward took down a lot of Ute words. Jack and I helped Andy to get dinner, Andy baking bread, Jack meat, and I cooking rice. Indians helped to clean out about all the eatables we had. After dinner Jones offered Indian one dollar to make a pair of moccasins, he (Jones) furnishing material. They took hides, &c., across the river; they will not work when any whites are around. Jack and I went down to the Uintah after more water; went across to see how they were coming on with the moccasins and if they were "hooking" [stealing] the deer hide. Found all O.K. Made some lemonade from lime juice. Steward and Fred started out for a 2 days' tramp this morning but got back at 4:00 this afternoon. We took the Indians over some supper. Bish, Steward and I had a game of euchre by moonlight alone.

Aug. 1st, [1871]. Helped a little about breakfast. Jack, Jones, Beaman and I took some breakfast over to "our Indians." Found that they had finished the moccasins. Jack found a piece of hide (about enough to make a pair of moccasins) hid away among his

*Chief Douglas was concerned in negotiations for release of the women after the Meeker Massacre on upper White River in 1879. Douglas' Boy guided Peter Dillman from the Uinta Agency in a lone attempt to save the captives.
blankets. We accused him of stealing it; said he had bought it at Uintah, got mad, &c., would not come over with us. Took the piece and rowed down to the Uintah River for water but found it worse than the Green so came back and dug a well by the river’s bank and soon had cool water moderately clear. Made ½ a bucket full of lemonade, offered Indian some, told him it was whiskey; “he went for that lemonade like everything.” We offered squaw a cup full but she would not drink it, gave it to her beloved spouse. Helped Andy with dinner, Indians again took dinner with us. Oh, before this and after we had come back from the Uintah, the Prof. went over and gave them the one dollar and talked to them awhile and got them in good humor; brought them across. Beaman took their photos. Gave them one, did not show any curiosity. Jones clumsily ran into the “Dean” in rowing across the river; he took them back after dinner. Re-read my letters, read Shakespeare, &c. After supper Bish and I cut willows for our beds. He talks of coming to Naperville if he can get a situation as principal of Academy. Hope he will.* Played cards by moonlight again. We have no lights and between 8:00 and 9:00 can do nothing else but pass time away. Indians left us this afternoon.

Aug. 2nd. Packed and sacked rations all forenoon. Cut up bacon, cleaned out the boat, cleaned a few glass, made a pail ½ full of lemonade. Fred made a ginger cake. After supper tried our skill at throwing stones across the river.

Aug. 3rd. Carried rations down to the boats, found on loading the “Canonita” she leaked; took our rations and sunk her so she would swell up. Read “Emmons Geology” and Shakespeare in afternoon. Prof., Beaman, Jones and myself played “seven-up.”

Aug. 4th. Did some washing. Beaman took picture of cabin, with all of us standing around it. Read geology and Shakespeare’s “Merchant of Venice.” I like it. Put tin on my oar, not a good job. Emptied “Canonita” of water, loaded her. She is all right now; “hunky.”**

Aug. 5th. Left Fort Robodeau [Robidoux] at 7½ this morning and never were mortals as glad as we for leaving it. The “Nell” takes the lead till we meet the Maj. Passed the Uintah

*Francis M. Bishop never returned to Illinois, settling in Utah instead. On this expedition he and Clem found mutual literary interests and were close friends during the entire journey. An entry in his journal says: “Among these, my comrades, I find no sympathy of heart with heart unless it be with Clem, and e’en this is tainted by the bitter extract of jealousy on the part of some others because we are friends.” See his journal, published in vol. XV of this Quarterly.

**Clem’s journal is a lively repository for the slang of 1871. The phrase “hunky dory”—meaning “all right” or “O.K.”—is still heard occasionally.
and White rivers. Beaman shot a beaver swimming but it hid away among the driftwood and we could not get it. We met "our Indian" again on the right-hand bank. He and his squaw were painted up more than ever. They had killed a "buckskin." We gave them some sugar for a little of it and so we will have venison for dinner. He begged for flour and biscuit but we did not stop to fool with him, so we bade him good-bye, I hope forever. They always build their wickiups in an open space; will not go under the shade of a tree for fear it will fall on them I guess. Ran about 8 miles, landed on right-hand bank for dinner at 11:30. Cut our way through the willows. We ran aground once or twice in coming down; the river is very shallow, has fallen 2 or 3 feet since we first landed at Fort Robodeau. While dinner was in progress Prof. and Steward in wandering around found a couple of Indian graves. Learned that Jones while at Brown's Park, found the grave of Hook, one of the party that was drowned in running rapid in Red Cañon. We started out at 2:00. The river winds between low bluffs, now on one side and now on the other and through a desolate, monotonous valley. Beaman killed a badger; it was not good for anything, and so left him on the bank. Soon we heard a noise on the right-hand bank in the woods. We landed and Beaman, Fred, Andy and I forced our way through a dense thicket of brush. Soon Beaman scared up a couple of deer; they ran down a short ways, swam the river and landed on an island ¼ of a mile down stream. We pulled out after them, landed on said island and while beating the brush scared them out. Fired several shots at them but without effect. They swam the river and were soon out of sight. Started down and about ½ after 5 camped on the right-hand side for the night. Cut some willows for our bed. In the meanwhile Beaman and Bishop went down stream a short ways and killed some beaver but did not get them. Jones and Jack started out after supper to try to get some but were too late. We heard them splashing and squealing during the night. Fred shot at an otter about 300 yards off, came near hitting it. There are low bluffs on each side of the river and a most desolate country beyond them and for 100 miles not a green thing to be seen.

Aug. 6th. It being Sunday Prof. has decided to stay here. Beaman has a sick headache. Prof., Steward, Jones and Jack started out for a walk in the morning over the river to see what was to be seen. Saw nothing but desolation. Reread my letters while lying under the shade of a tree on a buffalo robe. Finished "As You Like It." I don't like it. We made some lemonade. Today has seemed more like a Sabbath than any other in a long time. After supper read part of my diary to Bish and Steward, the events of June 27th. Gave Andy a blue pill. Took a stroll
to the foot of the bluff, rather picturesque. Went swimming after dark. Had a pleasant chat with Capt. Bishop.

Aug. 7th. Broke up camp at 7:30. Our way is through a most desolate country, low bare bluffs of all shapes and sizes with a few trees and shrubs scattered at their base makes up the view, while the river is still and shallow. We ran on several sandbars and had to get out and pull the boat across them. Some of the boys shot a beaver and killed him but it sank and did not get it. Landed at 10:00 for dinner. Prof., Steward and Bishop went back on the hills to work, &c. I suppose my letter I sent from Uintah reached N[aperville] on Saturday last with the pictures. While Jack and Andy are getting dinner I am writing my diary here on a log in the shade of a tree. Read Shakespeare. Capt. and Prof. came in after dinner and Steward shortly after, climbed a butte 1500 feet high. Found an Indian trail and couple of graves on top. We have entered the Cañon of Desolation. These low bluffs are gradually growing higher and higher, and desolate enough it looks with its bare gray rocks and earth barren and sterile with never a shrub nor green thing on them except close to the river's brink. I forgot to mention in my diary 2 or 3 days ago that there is a romance about "Douglas' Boy" and bride. It seems that he is a Uintah Ute, while she [is] a White River squaw and was promised to a brave of that branch, but loving her present spouse the best, they ran away and were married at Uintah and are now going it on their own hook while the other brave is hunting for them threatening their lives. We started out at 2:00 and of course running on a sand bar now and then. Towards night we saw plenty of beaver and a number of shots were wasted on them. Some were hit. Prof. killed one near shore and with many a flirt and flutter landed him into the boat. Soon we landed for the night on the left-hand side of the river and while the rest were busy preparing for the night Bish and I skinned the beaver. We worked away at it till 8 o'clock and after dark on going up to camp found our supper all cold and the fire about out. We immediately went to work and got a good warm supper. Made some syrup, &c., and had a gay time eating by the firelight. Our amusement caused some growling from the occupants of the beds but we cared not but still ate on and talked. Presently Fred joined us and we finished the food.

Aug. 8th. Broke up camp at 7½ and again started down. The "Emma" and "Nell" ran aground the first thing. The walls are growing higher but present the same aspect. Ran about 2 miles and landed. Will stay till after dinner for Steward has work to do. Beaman took a picture of Echo Cañon, a lateral cañon coming down on the opposite side of the river. The echoes are very fine here, giving 3 or 4 at a time. We had some beaver for breakfast. Do not like it very well. Steward found the re-
mains of a buried city back from camp. A well is all that remains. While Andy is getting dinner ready, Fred, Jack, and I are writing our diaries, while Prof. is reading, Bish working on his map—all under the same tree in the shade. Beaman has a headache. Started out at 1:00. The walls are vertical with talus, are regular and "alcoving," forming or assuming all kinds of shapes and figures such as castles, castle walls, churches and houses. Ran a small rapid, first we have seen since leaving Craggy Cânion. It sounded familiar, however. Dropped down a mile and landed to take the 2 o'clock observation and to take a picture, which while we were doing it, concluded to remain till tomorrow to take some more. Have to wait for a favorable light. Camped under some trees, spread our blankets and took our ease. Prof. and Jones took a climb out to see the country. Nothing but desolation. Helped Bish with his 9 o'clock observation.

Aug. 9th. After breakfast the Prof., Beaman, Jack, Fred and I, with boxes on our backs, climbed the cafion wall back of us. 'Tis very thin, only a few hundred feet from river to river, which doubles here. Beaman took a picture but 'twas not a good one, the weather being cloudy and threatening rain too, so concluded to leave the boxes up there and wait till tomorrow. On reaching camp it had commenced to rain. We put up our "paulins," spread our blankets under them, read Shakespeare and geology. We had some good biscuits for dinner. After dinner Prof., Steward and I went across the river, climbed up a dry gulch and tried to climb out. Got within about 200 feet of the top and could go no farther and so came back. The picturesque-ness and queer shaping or cutting of the rocks makes up for the absence of trees or shrubs. Went down a little farther and walked up a dry gorge. The echoes are fine too. Came back at about 5:00. Read Shakespeare some.

Aug. 10th. After breakfast the Prof., Beaman, Jones, Fred, and myself climbed the ridge; took several fine pictures. While Beaman was taking them, finished "Taming of the Shrew." When we reached the boxes found that some small animal had gnawed off the buckskin strings around the tripod and had lugged off one of the thumb screws. We hunted awhile but could not find it. Am sorry, it will be such a bother putting up the "howitzer." We reached camp at about 10:30 and concluded to have an early dinner here and start off after it. Packed the boats and dropped down ½ mile. Stopped to take a picture of the gorge we climbed yesterday. Beaman prepared the plate and I exposed it but deranged the separator and spoiled the picture. Beaman tried with better success. Took 2 o'clock observation and then started again. Ran a small rapid. The walls are growing

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88Along Hill Creek, east of this place in Uintah County, are found many cliff dwellings and prehistoric fortresses.
higher and more picturesque. Now and then we see a peak with a few straggling cedar trees. The walls are cut up into all kinds of shapes. Saw a good representation of a mortar and pestle standing by itself on a projecting rock 700 or 800 feet high, also saw a cannon, &c., &c., &c. The current is growing a little better and sand bars less frequent. The “Emma” and “Nell” ran on one or two. We have fairly entered the Cañon of Desolation, the walls on both sides 800 or 900 feet in height with lateral cañons, gorges, and gulches cutting them up. Saw a wall with a large hole through it, something on the natural bridge order. Called it the “Outlook of Desolation.” Andy being unwell I did most of the rowing. Landed for camp at 6:00 on left-hand bank among a thicket of rushes. Cleaned out the boat. Bish and Fred are getting supper while I am writing this.

Aug. 11th. Got up at 5:00. Helped Jack to get breakfast, after which Prof., Steward and Bish climbed out of the cañon 1200 feet high, while Beaman prepared a plate and I exposed it in the camera; came out all O.K. We then packed up the “Canonita” and Beaman, Jones, Andy and myself dropped down ¼ of a mile to take some views of the cañon around the bend. Went back about 300 yards and I prepared a plate while Beaman exposed it. Am getting so I can take a very fair picture. Took a view of a rock showing the action of the water plainly. While taking them the Prof. and Steward came down and met us. When we got back to camp found Bish had come down the other way, and the rest of the boys and boats there, also, and dinner just about ready. Started out shortly after 12 M and ran a small rapid full of rocks all right. A short distance ahead came to another small one, but rapid water and full of rocks. The “Nell” struck a rock but slid off all safe. The “Emma” ran on a large flat rock and stuck there for 10 minutes which can be laid to Jones’s poor management. The “Canonita” struck the same rock that the “Nell” did and swung her stern around and stove a hole through her. ’Twas Beaman’s fault; ought to have prevented it. We rowed her ashore, hauled her out of the water and fixed her up. Delayed us about an hour, and started out again. Soon came to another rapid. While the Prof., Jones and Beaman went ahead along shore to look at it, Andy and myself amused ourselves shooting at beaver. They soon returned and concluded to run it. The “Nell” ran it without sticking, though scraping the rocks, the water being shallow, rapid and swift. The “Emma” and “Canonita” grounded and we got out and shoved them through, thanks to Beaman and Jones. Ran another all right and landed for the night on left-hand bank, running 6 miles and 4 rapids, &c. Jones, Andy, and I got supper; baked my first biscuits—they would have been all right if I had not put so much soda in them. Wiped the dishes while Jones washed them. The walls of the
cañon are ragged pine and cedar trees straggling up their sides, here and there a queer figure or window, height 1200 to 1400 feet. We are beginning to have rapids again; a rapid just below camp. Have spread our blankets on grass.

Aug. 12th. The Prof., Steward, Bishop and myself went in bathing after dark last night; rather chilly. This morning Beaman and I unloaded the boat, turned her over and caulked her; had been leaking badly. We started out at 7:15. Last evening after we had gone to bed there came up a regular hurricane of wind, blowing the sand in clouds over us; had to hold onto our hair to prevent that leaving. The Prof. and Bish got up and went down to the boats to see if all was safe. This morning ran the rapid just below camp but had to get out and work by the side of the boat in going through it, it being shallow and rapid, as were the other rapids, 9 in number, that we ran in the forenoon. We saw a deer on the shore ¼ of a mile ahead, landed and tried to get him but it was no go. The river is very shallow and narrow; it winds and crooks in all directions, the walls about 3000 feet high, sloping back and covered with pine and cedar trees; are rough and rugged and seamed with many a ravine, gulch and chasm, lone pinnacles and buttresses projecting in all shapes and forms and in all directions, the banks lined with box elder and cottonwood trees. Landed for dinner at 11:00 on left-hand bank under some cottonwoods. There are quite a number of trees lying on the ground cut down by the beaver. While Jack and Andy are getting dinner I am writing. Jack and Fred went up a mountain to get some pitch for pitching purposes; came in with a little about 5:00. Read most of the afternoon in Shakespeare. After supper cut some willows for our bed. Bish, Steward, Prof. and myself chatted till 9 o'clock.

Aug. 13th. After breakfast the Prof., Steward, and Jones climbed out of the cañon for geological work and to see the country, while I took 4 views, 2 up and 2 down the river; filtered the bath and iron and cleaned things up generally. Had some good bean soup for dinner. The boys came in while we were eating it. Have just learned that while the Prof. was at Uintah he had a $60 Castella compass stolen from him. Have been reading all afternoon. Have got to "Macbeth." After supper had a good bath and swim.

Aug. 14th. Broke up camp this morning at 7½ and had a sweet time in getting through the rapid just below us. 'Twas very narrow, shallow and swift. We waded it mostly, leading the boat down by hand, stuck on several rocks and ran against others but came through without injury to the boats. Ran the 2 next rapids without trouble; the fourth we let down by line, and the fifth the worst one yet. 'Twas a hard one to get through, current swift and fall of 3 or 4 feet and filled with rocks. We
let down each boat separately, wading hip deep to guide her and the others holding on to the rocks, while every now and then the boat would give a sudden jerk and some poor fellow at the rope would be floundering in the water and laughed at by his comrades; but his turn to laugh would soon come. Spent about an hour and a half in getting over it and dropping down a short distance; landed for dinner on a sand bank under a huge cottonwood tree on the right-hand side. The portages we have made this morning we have called "kicking" portages, a new way a couple of us fellows have of going to the boat and kicking her off the rocks. While Andy is getting dinner we are in "undress uniform," drying out, with pantaloons, &c., on the surrounding limbs. After dinner Beaman took a view of "Fret Water Falls," as we have called them. We started out about 3:00 and dropped down a little over a mile, running a rapid or 2 all right, when we came to another "kicking" portage. Beaman and I took out the photographic machinery, ran the rapid "overland"—in other words walked below it to take views while the rest of them let down the boats. I coated the plates while Beaman exposed them. Finding that our bath would not work, gave up the pictures. Just then the boats came round the bend in gallant style. They do look handsome in the water. Found that they had left my gun on the rocks behind, so Bish and I went back after it. Drank some spring water we found; not very good—too much alkali. Came back, found supper ready, after which I cleaned my gun while the Capt. cleaned his pistol. We concluded to make a chess board and play chess after this from 8:00 to 9:00 while waiting for the observation. Made it on the Capt.'s poncho; worked till 9½ on it, finished it and went off the [to] bed.

Aug. 15th. After breakfast we took some pictures. Beaman exposed the plates while I coated them. Started out about 10:00, shortly after the other boats, and soon came up with them ½ mile below at the head of a regular "knocker" of a rapid where we made another "kicking" portage and then ran 4 more. We called the first rapid "Five Point Rapid" on account of there being 5 peaks in sight of it. Jones and Jack were ducked while holding on to the rope and all of us wet up to our waists. Landed on the left-hand bank at the head of another bad rapid, for dinner at 12½, and another drying performance was enacted. While I am writing this Capt. and Fred are fencing in horizontal flannels. Prof. has gone down to look at the rapid. Just a year ago today Frank Morse, Fred Dudley, Bob Barnard and myself started on a hunt. Ah, me, I wish I were at home. I suppose Birdo is enjoying himself today; I would like to see him. We only made 5 miles yesterday. We are averaging 10, 12 or 15 miles a day. The rapids are numerous, bad and close together, the river making bends at about every ½ mile and a rapid at every
bend. Heigh ho! Last night the Capt. found the barometer of the "Nell" broken and this morning tried to fix it. Started out at 2:15; made another kicking portage just below dinner station over a bad rapid. Wading and kicking at the bow of the boat and now and then being dragged over the rocks, and again hanging on when the water was beyond my depth, Beaman at the stern and Andy at the stern oars, each crew letting down its own boat. We soon came out in clear water only to run another rapid which we did without getting out. After running that, came to another roarer that was so bad that one boat was let down at a time—the "Canonita" first with the cooking utensils; Andy walking down to our supper camp to prepare supper while we let down the other 2 boats, two men hanging onto her sides, the rest of us to the ropes. Soon were safely moored for the night at the head of another "little rapid around the corner." The "Canonita" leaks badly; has had some hard thumps. Beaman is very careless and reckless, the Prof. is dissatisfied with him. We found a footboard belonging to the "No Name" at camp. Helped Andy to cook some rice for supper. Cut some willows for our bed. We are landed on right-hand side on a sand bank. After supper Bish and I built a bright fire and played chess.

Aug. 16th. The Prof. has concluded to stay here today to rest. He and Jones went across and down the river to see ahead. They report rapids till you can't rest. On the top of a bluff opposite is a butte for all the world like a street car. The scenery here is grand; the walls are broken into peaks averaging from 2000 to 3000 feet, cut and seamed with gulches, ravines, and chasms, and covered with sagebrush, pine, and cedar trees. The boys have put up their paulins for shade but Bish and I sought a cooler place on the rocks under a tree overhanging the river, he to plat his map and I to mend my breeches which have become what Sam Weller calls "ventilated gossomers." Also did some washing. After dinner the Prof. and Bish went up the river for a climb. I took the 2:00 observation after which I went back to my breeches; was soon joined by Steward. We had a pleasant chat about what we would do when we returned home. Bish cut Fred's hair. Reread my letters. After supper played chess with Bish. Helped him take observations at 9:00. It has been so smoky today that Prof. could not climb out nor Beaman take pictures, and so will stay here tomorrow forenoon at least waiting for it to clear up. I have felt lonely and homesick and long for the time of going home.

Aug. 7th. It being a little clearer today the Prof., Jones and Steward climbed out after breakfast while Jack and Fred went up a little way after pine gum for the boats and Beaman and I went back to the falls to take some views of it. We took a couple (day before yesterday we ran about 5 miles). When
we came in at 10:30 found Jack and Fred; they had gathered quite a lot of pine gum. Read geology, studied phonics [short-hand]. Just as we got through dinner the Prof., Jones and Steward came in from their climb. Said we would start out right off, so we packed the boats and started out, running 3 rapids and then came to a bad rapid and kicking portage. 'Tis the same rapid that the Maj.'s boat was swamped before and $800 worth of watches and $300 worth of arms were spoiled, so Jack Sumner says in his diary.* Ran another rapid and landed at the head of another kicking portage. Let Beaman and I out to take some views of Nine Mile Creek and of Log Cabin Cliffs, the highest vertical cliff we have yet seen, height about 2800. While taking pictures the rest of the boys let down the boats. While they were letting down the "Canonita" we took a view of them in the middle of the rapid. Coated plates, &c. for B. The fall to the rapid 5 or 6 feet. The Prof. joined us as we were through and we all climbed the low foothills back of us. Had a fine view up the valley of Nine Mile Creek and of the different peaks. We concluded to leave the boxes on the bank of the creek and come up in the morning and take views. Drank some of its waters but found it strongly impregnated with alkali, though clear and cold. We went below the rapid and found the boys had gone into camp and supper nearly ready. Spread our blankets on the sand. Have made 3½ miles. Played chess with Bish by camp-fire.

Aug. 18th. After breakfast Beaman and Jack and myself went back to Nine Mile Creek. Shouldered the boxes and gallantly marched up the mountain. Took a couple of views, one looking up the creek's valley and one looking down the river. Came down, repacked the boxes, fixed the negatives, and went back to camp. Packed the boats and started out at 10:30, running 5 rapids and making 2 kicking portages. The last one we landed above the rapid; left Andy and [the] cooking things to prepare dinner for us while we let down the boat below it and then walked back to dinner. Started out at 2:15 and ran ¼ of a mile and came to the worst and longest rapid yet in this cañon. Let down each boat at a time, hanging, kicking, pulling and pushing them off the rocks, &c., and when the water was beyond our depth, hanging on to the sides of the boat till we could again reach bottom. We ran 3 more rapids, one a dangerous one full of

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*See Sumner's journal entry for July 11, 1869, in this Quarterly, vol. XV, p. 114. His "Statement," supplied many years later to Robert Brewster Stanton (Colorado River Controversies, New York, 1932, pp. 167-213), asserts that this accident was the beginning of trouble which culminated when the Howlands and Dunn left the 1869 party at Separation Rapids and were killed by Indians.

**This canyon contains many Indian ruins and miles of petroglyphs. Origin of the name is unknown.
rocks, a good deal like Hell's Half Mile. The "Nell" ran on a rock and hung while the other boats passed her in safety. She was soon pushed off and went on her way rejoicing. We landed on left-hand bank for the night at the head of a rapid at 5:20. Have run 9 rapids, and 4½ miles. Made our beds on the sand and dried ourselves by Andy's fire. Bish and I gathered a lot of wood to play chess by after supper. I have been writing my diary up for today just before supper. I would like to be at home tonight.

Aug. 19th. Last evening the air was filled with smoke, a regular fog like from the burning of some pine forest near at hand back of the cliffs, and this morning the air is very hazy and smoky. Broke up camp at 7:30 and commenced our day's work by running a couple of rapids to begin with and so on till we ran it up to 7, making 3 kicking portages, Andy and myself guiding the boat through the rapids while Beaman held on to the rope. We landed on the right-hand side of the river at 11:05 for dinner on the rocks under some cedar trees and at the head of another kicking portage. Have made 5 miles. The walls are broken and are growing craggy and "peaky." Put my satchel in an empty rubber sugar sack to keep it from getting wet. After dinner we dropped the "Canonita" down over a swift dangerous fall in safety. Beaman and I then got the photographing things in order to take a view of the other boats as they were let down through the rapid by the rest of the party. We got 3 fine views of them. The falls has a fall of 8 or 10 feet, full of large rocks and a current of 35 or 40 miles an hour. While packing up, &c., the other boats dropped down ½ mile around the curve. We soon followed, running the latter part of the rapid in the tail of waves. The banks fairly shot by. As we found the other boats moored to the shore Steward said there was a natural bridge to be seen by going back a little way. So Prof., Bish, Fred, Beaman and myself started out and soon came in sight of it across the river on the top of the ridge 1500 feet above the river; has a span of about 150 feet and about 200 feet high, with pine trees growing around and under it. 'Twas a fine sight. Concluded to take a picture of a pretty little lateral canón coming in from the same side of the river we were on. Found several wickiups showing that the Indians were here not long ago. Went back to the boats, then decided that the other 2 boats should drop down ¼ of a mile and camp for the night while Andy went with them to get supper and Fred to take his place in the "Canonita." We then carried the boxes back to the little canón, put them up, found I had forgotten the thumb screws at the falls above. Took a view of the canón. Concluded to leave the boxes there and take a view of the bridge by the morning's light. Started back to the boat, they set me across;
I walked back to the falls, found the screws and walked back to camp. Found it as usual on a sand bank with the usual quantity of ants. Steward's moccasins being too small for him he gave them to me. They are a "trifle" too big for me but can wear them, my old ones being ripped. Soaked them in the river for the night to mend in the morning. Spread my blankets and cleaned my gun. Built a big fire and played chess with Capt.

Aug. 20th. After breakfast Beaman and I went across the river to take a view of the bridge. When we got back found that the rest of the party had gone down 3/4 of a mile to camp for the day under a grove of cottonwoods on a sand bank. Soon the Prof. and Jones came back and helped Beaman and I to make a kicking portage down 3 rapids in succession below which is camp. Ripped off the tops of my moccasins. Jack has kindly offered to sew them for me. Reread my letters. Had beans and vinegar for dinner after which have written my diary. Read a poem of "Nothing to Wear." At about 3:00 p.m. Prof., Steward and myself started out to climb a mountain to see where we are, the old map being wrong. We hardly know where we are. Took Steward's six-gun in case we should see any sheep. We climbed half way up, then left it among the rocks, it being too much of a burden to carry it any farther. We reached the top in about an hour and 1/2 after a hard climb of 1500 feet. We had a fine view of the country or cañon rather, and about 2 miles of river. We counted 8 rapids in succession and 3 or 4 portages. We could plainly see that we are almost out of the Cañon of Desolation by the walls which were broken into buttes, ridges, and were growing lower. Some of the buttes represented the ruins of castles, churches, and all imaginable things, while the ridges are sharp, craggy and broken into peaks, portholes, windows, caves, doors and bridges. South of us were lower [elevations] while north of us [were] lofty peaks and cañon walls, the first 500 or 600 feet high, the latter 3000 feet; the lower part of this cañon is anything but desolate, red, white, gray and purple sandstone interlined with green shale and covered with green pine and cedar trees with here and there a little rill along whose bank the cottonwood is seen, plenty of sheep (but as they are "wormy" of course we would not kill them). Now and then we hear the familiar "caw, caw, caw," and to cap all, plenty of cheering rapids and invigorating kicking portages to make, &c., &c., &c. We started down at 6:00; reached camp in time for a good supper. Last night Steward killed a rattlesnake. Have made 3/4 of a mile, run 3 rapids, making 3 portages. Made some lemonade of the lime juice after dark. Bish and I built a fire and we read around it till 9:00 observation. The Capt. explained the
movement of the moon to me. We covered up our fire and then went off the [to] dreamland.

Aug. 21st. Broke up camp at 7:30. In running the first rapid the "Dean" and "Nell" made a portage as directed to by the Prof., but Beaman, thinking he could run it, did so in safety, but barely escaped running into the "Nell" and smashing her or running against rocks everywhere in the channel, which if she had struck in that current (25 or 30 miles an hour) would have strung her all along the canyon. 'Tis the second time he has disobeyed orders and the Prof. "went for that heathen Chinee" in a way that I admired, as did all the rest. Beaman is disliked by all. We landed at 11:00, Beaman and I to take a picture while the rest let down the boats below a rapid just below us. When Beaman and I reached camp found dinner ready and we pitched in; landed on the left bank of the river as usual, on a sand bank. Have run 9 rapids, making 7 portages. After dinner I set up the things again while Beaman took a view looking across the river. In the meantime the "Emma" and "Nell" went across the river at the head of another rapid and landed. As soon as we had packed up we followed, landed, set up the things again, while Beaman took a couple of fine views looking across the river, and by the time we had packed up it was 3:00 p.m. We ran 4 more rapids, making one portage, making 13 rapids and making 8 portages. We landed on one side of the river but the majority concluded that the sand bank on the other side was the most proper place to camp, on which we did after dragging the boats over a bar. The Prof. is very unfortunate in his selection of camping places. Have run 5½ miles. Plenty of ants here getting into our grub. Bish has concluded only to play 2 nights in a week at chess. Am a little too much for him, giving him odds of a queen. We being wet, changed our clothing and dried ourselves by the fire. Steward read me his diary, 27th of June. We had a shower in the middle of the day, did not amount to much however; we spread our blankets on the sand under a cottonwood tree and being tired were soon in the "land of nod."

Aug. 22nd. Broke up camp at 8:00. Bish is always the last one ready, and commenced the day's work by running as pretty a rapid as we have run yet. 'Tis about ½ a mile long, in the form of a half circle, current about 20 miles an hour, some waves and a few rocks. The banks just whizz by us. Then came to the head of a bad rapid, letting down one boat at a time, 4 holding the boat, and 4 holding the rope. Came very near getting my leg broken by getting it between the rocks and the boat: as it was it was bruised somewhat. Have been in the same fix 2 or 3 times lately. Will be more careful. The current is so swift in these rapids that it rapidly reduces our breeches to
shreds and frequently takes us off our feet and can only regain our foothold by coming in contact with a projecting rock. When the water is beyond our depth we cling to the sides of the boat and away we go up and down in the waves, jerking over the fellows holding on to the rope like so many ten pins. Two or 3 have been hurt by falling on the rocks. We landed for dinner on left-hand bank, just below the rapid. We passed the old camp-fire of the previous party this forenoon. I took a picture of Castle Rock, isolated and alone. At 3:00 we started out again. First the "Nell" that ran a dangerous rapid all O.K., then the "Emma," which did not run it all O.K. but came near going to pieces on a rock. We had just started to run it but was [were] signaled to land in a very energetic manner by Prof. and Bish and we knew that something had happened. Beaman and I ran down to see what [it] was, but before we got there it was all O.K.; the "Emma" had run on a rock bow on and had swung across the channel. If we had got fairly started would have stove her to pieces. She was finally hauled off by those on shore. Found she had shipped considerable water. The waves were 3 or 4 feet high and going 25 or 35 miles an hour. The "Emma" ought to have kept to the left of the waves but instead went right over them. She seemed to jump through them and up and down in a terrible way. Jones was just about frightened out of his wits and lost all command of his boat. If she had not run onto a sand bar and almost have stopped her she would have been dashed to pieces on the rocks just below the bar. We ran through the waves quartering, shipping little water and just grazing [sic] 2 or 3 rocks, and came out into smooth water. All the rest of the fellows were gathered on shore to see whether we would run it in safety. On further, just as we were emerging from the Cañon of Desolation proper, we saw a horse which we thought was hobbled at first, and landed in expectation of meeting Indians, but not seeing any Prof., Steward, and Jones followed the horse and found he had a leg broken and came to the conclusion that he had been left by a band of Indians, as by his tracks we could tell that he had been here about a month. Bish and I tried our skill in skipping stones down to the falls below. Soon we started out again, running the rapid. Landed on a rock beach while Prof., Jones and Bish went down farther to explore. We commenced taking the things out of the boats for the night. Steward had gathered some fossils in the afternoon and suggested that it would please Dr. Paul if I would collect specimens now and then; the idea being a good one. will collect whenever I can. Just as [we] were fairly unloaded, Prof. came back and said we would drop down about 1/4 mile to a better camping ground, so throwing the things in the boat again we dropped down and again unloaded and carried the things back away to a few
cottonwoods and made our bed and prepared supper. Beaman and I cut some willows for our bed while Prof. and Steward climbed bluffs just back of us to examine the rim. They are having quite a time with the old map. Prof. says it is wrong, and Steward claims he can see a resemblance between it and the river, &c. After supper Bish and I built a fire on the rocks and played chess. Prof. always comes down to where we are to watch us. This afternoon we ran out of the cañon proper and came into I do not know what, about the same as the commencement of the cañon.—low, gray-white bluffs with only here and there a hardy sage bush and now and then an isolated peak or butte resembling something or other. Have discovered another natural bridge larger than the other, while here and there there will be some lone rock standing like an egg on end. There are 2 of them on a butte that the boys have called "Columbus' Eggs," &c. Have run 11 rapids, making 4 portages, running 5½ miles. Have landed at the head of the worst and longest rapid yet in this cañon.

Aug. 23rd. We have concluded to stay here till noon at least today. After breakfast Prof., Beaman and Steward went back to climb some buttes, Beaman to see what pictures to take, &c., while I got the machinery ready. He soon came back and said he would not take any till after dinner. Have been sitting under a tree writing my diary for the last 2 days, with Bish near platting his map, Andy cooking beans for dinner and Beaman writing his journal. All at once Beaman said, "Clem, I wish you would take a picture of that butte for me." I said, "Kanect," and immediately set up the boxes and took a couple of views. I fail in flowing the developer over smoothly, but do well in the other processes, Beaman says. I told the Capt. today, if anything should happen to me on this trip to send my diary and principal effects to Morris. Had a good dinner—beans and apple sauce. The Prof. and Jones came in at about 1:00. We at once packed our boats, shouldered the boxes and climbed a steep hill. Went back a little way to take some pictures of the country while the rest of the party let down the boats over the rapid below camp. We had nicely got to going when there suddenly came up a shower and a strong wind. We had to take them down and wait till the shower had passed over. Now a shower in this country only means a sprinkle and is over with in 10 or 15 minutes. The wind is the worst. I enjoyed a grand sight in seeing the wind and rain clouds come sweeping over the peaks, walls, and down the gulches and chasms of the cañon. Beaman climbed down to see how the party were getting through. We soon had our things up again and a couple of fine views taken. Prof. came up just as we were through. By the time we reached the boats 'twas 4:00. The boys had found a salt
spring among the rocks. In running the second, the "Dean" went across to the right-hand bank to run it but was sucked in onto a tree that hung over the water and broke Fred's oarlock clean off, but ran the rapid without further trouble. We landed on left-hand bank for the night at about 6:00. Have run 5 rapids, making one portage and have run 3 miles. We have again entered Desolation. Everything now is looking bare, lonely and dreary. 'Tis the beginning of Coal [Gray] Cañon, but the latter end of the Cañon of Desolation, but for a mile and a half between the cañons are low hills or bluffs and an entire change geologically, there being coal in the latter cañon, hence the name. Desolation is 65 miles long and in high water would have been a bad cañon to run. Tonight while Jack was cutting willows he gathered an armful of willows to cut; put his hand within 8 or 10 inches of a mountain rattlesnake coiled on the rocks. He quickly drew it back, called to Steward, who came up and shot him with a pistol. He had 9 rattles on him. Rather a narrow escape for Jack. We cut some willows for our bed, spread our blankets, had supper, after which I went down to the boats moored so peacefully to the bank in the moonlight, and lay down on the main hatch and thought of friends and home so far away. Bish soon joined me and we had a pleasant chat. I like the Capt., he is refined, cultured and intelligent. He is disgusted with some of the members of the party and I don't blame him, for I am myself, especially Jones and Beaman. They are low, illbred fellows. Fred is a good fellow and of good principles but is very egotistical and obstinate and [there is] a lack of sympathy between us. I will be glad when the trip is through with.

Aug. 24th. Broke up camp at 7:30 and finally entered Coal Cañon, the walls growing higher and more vertical, and are seamed with coal. Made one bad portage in the forenoon, and of course Andy and myself guiding the "Canonita" through the rapid, wading in the water at all depths and went beyond our depth, hanging on the boat with our legs dangling and thumping over the projecting rocks. The walls are bare and destitute of every living thing excepting sheep perhaps, and are very dirty in appearance and are composed of sandstone with cappings of limestone. We camped for dinner at 12:15 on the right-hand bank under some cottonwoods on the rocks. Have run 7 rapids, making one portage and have made 6½ miles. While Andy was preparing dinner I read Emerson's "Essays on Bonaparte." Liked it. After dinner started out at 2:10 and ran some very pretty rapids and some bad ones. We made a portage at a regular "knocker," the same rapids that Jack Sumner says in his diary [on July 12, 1869] that they let down the boats by line, one man holding on to the last boat and letting it down and then swimming
after it, for there is no place to make a land portage for the walls are vertical. The water being low with us helped us considerably. We of course made a kicking portage, fully ½ a mile long in the form of a crescent. It has a considerable fall to it. We floated down between vertical walls with a little beach at their base, covered with weeds, and 'tis rather romantic and picturesque. A few shots were fired at some otter and beaver we saw swimming the river, but with the usual luck. I keep my gun under the hatch during these rapid running days. We landed at 6:00 for the night on the right-hand bank on a sand bank as usual but where the willows are abundant. Read Emerson by the camp-fire. Had a pleasant chat about him and different things with the Prof. till 9:00 came. Helped the Capt. with observation. Have run during the day 15 rapids without counting the smaller ones, or riffles, as we call them. Made 12½ miles, making 3 bad portages and are camped at the head of a rapid.

Aug. 25th. After breakfast this morning cleaned out to [the] boat, or at least my part of it—the only part I take care of, while Prof., Bishop, Steward and Jones climbed out for geological and topographical work. After I had taken care of the bedding Fred and I had a climb on our own hook. There is a lateral cañon that comes back of camp; in the springtime there is 10 or 12 feet of melted snow-water in it that comes down from the mountains above. We went up its bed 300 feet and then came to its top. The walls on the sides are 150 to 200 feet high and vertical. The path wound round and something new and picturesque met us at every turn. As we approached the top the step became steeper and longer and we had to do some climbing. It would make a beautiful place for a Sunday afternoon walk in Illinois, it being wild, romantic and twisting. It is also a good illustration of the cutting away of the rock by water, the cutting away of the softer rock and leaving the hard. On reaching the top we saw Steward away up on the mountain. We crossed the ridge in hopes of reaching camp by going down another cañon that came down to the river. We found a kind of a little cave, and sat and talked of different things, Fred sketching what the boys have called the "Devil's Turnip Patch." On going down the cañon we got within about 100 feet of the river when we found we could go down no farther, the cañon ending in an amphitheatre [sic], the walls being vertical. So we recrossed the cliff and went back to the other cañon. Fred found he had lost his pencil case and went back to find it while I sat on the rock admiring the scenery waiting for him. All at once I heard and saw a huge rock come rolling down the mountain side and on looking up saw Steward coming down. He soon joined me; said he had got separated from the rest and was now going down to pack the "Nell," and so went on down. Fred came
up with his pencil case and we were soon at camp. It was 10½
and we concluded to get dinner. At 11:00 the Prof. and rest
came in, I in the meanwhile writing my diary. The Prof. said
he had found the valley of the White,“ it was only 4 or 5 miles
away. We started out at 12 M. We found that the walls were
fast crumbling away; in some places only a lone rock just ready to
fall into the river is only standing, and now and then an entire
wall is just tottering. In a few years the channel of the river
will be changed and it will have more and dangerous rapids. At
3:15 we found the mouth of the White but no water in it. Have
run 10 rapids, making 2 portages and made 5½ miles. We will
camp here for the night and in the morning [go on] to Gunnison’s
Crossing and hope to meet the Maj. there. The Prof. and Jones
took a walk up White River to see if they could find water. They
came in in an hour or so, found water ½ mile up. Cut willows
and made our beds on the bank of the White. We are camped
at the head of a shallow rapid. Andy is cooking on the bank
of the Green, Bish and Steward disputing as usual, and the Prof.
laughing at both, while I am writing up my diary for today.
After supper read “Swedenborg,” by Emerson, by the blaze of a
camp-fire on the wet sand of the Green, which Bish and I built
while waiting for observation at 9:00 p.m.

Aug. 26th. Started out at 7:20, running rapid after rapid;
with the exception of 2 or 3 they were ugly ones. In coming
through one Beaman unshipped his oar and we ran broadside
to a huge wave that came dashing over a rock, causing us to tip
somewhat and after landing, to bail out. The “Nell” ran through
the heaviest part of the waves, at one time completely covered
with a sheet of water, shipping a wave and half filling their boat.
At about 12 M we came to an isolated butte rising monument­
like—a tall column 1500 feet in air that marks the mouth of Coal
Cañon, and just this side of it we camp and will wait for the
Maj. till the 4th of September. If he comes not in that time will
start for the Dirty Devil with about 35 days’ rations. Have run
11 rapids, making one portage over a long shallow one, and have
run about 8½ miles. Below us is the Old Spanish Traila and
also where Gunnison crossed and was afterwards killed by the
Indians at a lake near here that bears his name. ’Tis a favorite
crossing of all the Indians near here and also the crossing of the
Navajos on their raids in stealing horses from the Mormons. The
trail is ½ mile broad at the river and the remains of at least 1000

aSometimes called “Little White” or “White Earth River,” now Price
River.
aThis crossing, five miles below camp, was used by Captain J. W. Gunni­
son while on an exploring expedition in 1853. Gunnison, together with six of his
men, was massacred by Indians on the Sevier River (southwest of Delta, Utah),
shortly afterward. This variant of the original Spanish Trail through Utah
seems to have been pioneered by William Wolfskill in 1830-31.
wickiups lay scattered around. There have been Indians around here within the last month or 6 weeks. On our way down here saw and shot at a couple of sheep that we saw across the river but they soon disappeared up a small valley between the buttes. Also the Capt. shot a beaver and killed him, but dead beavers always sink and so did not get him. We unloaded the boats on the bank, for we intend to get them in good order for the work they will have to do between here and the Dirty Devil. Hauled and turned them upside down and will let them dry out till Monday morning and then will go to work at them. While we were unloading the “Canonita” and in consequence of Andy leaving the coffee sack untied, I planted a small plantation of coffee, and the next voyagers that come down the river will be surprised to find the coffee plant growing wild on a sand bank at the mouth of Coal Cañon. Our camp is on a huge sand bank and under a few scattered cottonwoods. Under a huge one Andy has his kitchen, for driftwood is plentiful there—while we are scattered around under different trees, Steward, Bish, and myself together. Now that our rapids are run have changed my clothes, putting on a pair of white breeches and the Maj.’s shoes that he kindly sent down to me at Uintah. They are almost new and a splendid pair, really stylish; cost $12.00. After supper made our beds on the sand, helped the Capt. cut some willows, talked of home, &c. In the evening had quite a conversation about the conduct of the war.

Aug. 27th. Another Sunday morning has come, one more milestone nearer home. Most a lovely day, just like Indian summer, with a cool breeze coming up the river. After breakfast Prof. and Steward took a walk down the river; on coming back said he would call this “Gunnison’s Camp.” Capt. built a cozy wickiup and invited me to partake of its hospitalities, which of course I did. We found 3 Indian “mills” for grinding corn near it; brought one of them inside for a seat. Wrote part of a letter to Cousin Lou. Bish cut my hair and trimmed my whiskers in a gay style. I soaked my moccasins last night and Jack mended them for me this morning. Read Longfellow in the afternoon, read most of the time and wrote my diary up to this morning. Fred and Jack went down the river for about a mile and % and put up the flag at the head of an island for the Maj. We are anxiously waiting to hear his signal shots. We have named the butte at the mouth of the cañon “Cathedral Butte.” The length of Coal Cañon is 28½ miles. Have run about 120 or 125 rapids and made 35 or 40 portages I should judge, in both Desolation and Coal cañons. Prof., Bish and Steward spent the evening in the wickiup talking over our plans for the future. Went to bed at 9½.
Aug. 28th. After dinner we went to work at the boats. Found that the "Canonita" had one of her boards sprung off during the night; rather bad as it had also broken 2 or 3 ribs, but Beaman and I went to work and fixed her up the best we could. We took a picture of them and of the boys as they were working at them on the sand beach. I varnish the negatives, a rather particular job. After dinner we built a small fire and cooked our pine pitch and pitched the boats with it. If anyone thinks it is fun to sit over a fire on a sand bank with the thermometer 97 in the shade, just let him try it, that's all. We stopped up the principal cracks and holes but did not have quite enough of the gum; however our boat is in better condition and stronger than she has been in many a day. We have put in 5 or 6 false ribs to strengthen her; she is the prettiest and best modeled boat of the 3 but the worst built. She rides the waves like a duck and will hold 300 lbs. more than the other boats, though having a smaller main cabin. I burnt out the frying pan and cup we used for boiling the pitch and got them cleaner than they have been since they were new. Andy is not very clean about his cooking and the dishes are only half cleaned. Beaman and Fred tried their "sausages" [life preservers] in the river; they work to a charm. I read and studied geology till supper time. After supper Jack caught 3 large fish, the largest weighing about 20 lbs.

Aug. 29th. Beaman and I built a wickiup between Capt.'s and Jones's, Beaman fixing his chemicals and I doing all I could to help him, the forenoon passing away rather wearily. After dinner we lingered around the kitchen talking about the Maj. and wishing he were here, when suddenly we heard our signal shots a mile or so down the river. We at once answered them and Fred and I started down to meet the Maj. We crossed over to an island and went down to the other end where the flag was, and across the river we saw the Maj. and Fred Hamblin, as we afterwards learned. We did not know the Maj. at first till he spoke to us, asking us where camp was. We told him and they started over the low hills till opposite camp. About 10

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"These fish, often weighing up to 30 pounds, were "Colorado River salmon," locally called whitefish, a giant relative of the minnow."
minutes before we rowed the "Nell" and "Emma" over to meet the Maj. in person, the Maj. called to us asking us the way to come down the steep bluff. Jones and the Prof. commenced yelling up to him, one saying one thing and the other something else; Prof. with accent bland told Jones to "keep his damned head shut till he (Prof.) got through." Jones wilted. The Maj. was soon in camp among us once more and everyone rejoiced, the Maj. to know we were all safe and sound, and we to see the Maj. He introduced Mr. Hamblin to us; he is the brother to Jacob Hamblin in charge of pack train. The Maj. told us that he had given up the idea of finding his way in to the Dirty Devil and had bought a few rations at Manti; hired Fred and Lyman (his nephew) Hamblin to bring them in to us; Lyman he had left at camp 4 miles farther down; that he had sent word to Jacob Hamblin not to meet him at the Dirty Devil but to meet him at the Crossing of the Fathers, 40 miles above the mouth of the Pahria [Paria], the end of our journey this year, and that he had left Salt Lake just a week ago and had brought us all of our letters and a few papers, the rest to be sent to Kanab. Told us to pack up and we would drop down to his camp. It did not take us long to pack our boats, you bet; they were soon cleaned out and loaded and in readiness to start, but we had to wait a little while for the Prof., who was taking an observation. We started out at 4½ and ran the 5 rapids gaily (except the "Nell" ran aground at the first one; its crew had to drag it over the rocks a short distance) and without stopping to look at them. As soon as we were at camp tied our boats and "went for" our letters. I found 5 for me, 3 from Belle, 1 from Morris, 1 from Fred Dud[e]y, all good first-rate letters, but was disappointed at not receiving more from home. We read and reread our letters till supper time. The Maj. told us that he had had a hard ride since he left us almost 2 months before. Said he had only left the snowbanks up in the mountains a few days since. After supper we made our beds and then went to writing letters to our friends around a camp-fire we built for the occasion. Bish and I were the last ones to go to bed, which we did at 12½ M. Bish burnt a hole through his coat, which made it "warm" for him. The pack train consists of 2 mules and 2 horses and 3 riding animals, the Maj. owning 2.

Aug. 30th. Rose very early to finish my letters and have been writing nearly all day, reading over my letters and papers. Beaman and I made a shade, or wickiup, while Capt. made a large one, Beaman fixing his chemicals and I helping him. We all like the Hamblins, they are jolly fellows. I have learned how to make cigarettes. They are very nice to smoke. The Maj. has brought in a lot of kinnikinick he picked on the mountains. Our camp is on the right-hand side among some cottonwoods and is grassy.
The Maj. brought in 300 lbs. flour, a little sugar and some jerked beef, some overalls and a pair of shoes for each man in the party, an article we were sadly in need of. In the evening built a fire and Bish and I wrote around it till about 12 M. The moon shone almost bright enough to see by.

**Aug. 31st.** Rose very early. I do not feel well. The Maj. and Prof. rode out on the hills back of us. When they came in the Maj. said he wanted some pictures taken, so we packed up and Beaman, Maj., Jack and I climbed the bluff and walked over a level plateau for a mile and ½. The Maj. told us he wanted a picture of a high butte that he calls “Gunnison’s” (in honor of the explorer who was here in 1854 [1853] in charge of a government expedition) and then went back to camp while we took the pictures, I coating plates, &c. Jack found a Mexican bit. When we got back it was past dinner time, but found some left for us. After dinner I asked the Maj. if I was going with him to the Aztec’s [Hopi] this winter. He told me he wanted me to take pictures for the party under the Prof.’s control while Beaman would for his party. He told me he had sent for new instruments to N.Y. and they would be at Kanab for me. Said I took good pictures; it would be money in my pocket, that he would give me an interest in them, &c. I was very glad of the idea and thanked him. I know I will succeed for I can take a fair negative now. I will be cut loose from Beaman and will be no one’s assistant but will become useful to the party. I don’t like B.—he is coarse, low and ignorant. Bish offered to do all he could to assist me this winter. I started out an assistant and will return one of the head ones of the party. I have a bright future before me. Fred and I told Lyman to get us a lot of Indian curiosities, ½ dozen pairs each of moccasins and a pair of leggings. He said he would do the best he could and would have them for us at Kanab where he lives, this winter. I told him particularly to get a bow, quiver and arrows of the Indians. I want them for Frank. In the afternoon the Maj., Beaman, Hamblin, Jack and I went up the river to take some pictures. We followed the Indian trail for a couple of miles and came to the place the Maj. wanted us to take, and then he went back. Hamblin told us about Kanab, the Indians, &c., &c. We rolled some huge rocks down off the bluff into the river. We took 3 pictures. By the time we got back it was supper time, after which we had some Indian songs from the Maj. and the Hamblins; they are good singers. Had a very pleasant time till 8½ when Bish, Fred and I built a fire down near the river on the rocks and commenced writing. I finished writing to Morris, Belle, and Fred Dudley. Every night we see the moon coming slowly up over the bluffs to the east; ’tis rather picturesque. We sat up till 2:30 a.m. writing and talking, then retired.
Sept. 1st, [1871]. Rose at 6:00. Wrote a little more in Morris’ letter and enclosed 3 views in Belle’s, and 2 to Cousin Lou. Sent Belle’s letters and views to Morris, for Belle may be in Naperville by the time it gets there. I wrote an order to Anthony, N.Y., for chemicals, &c., to meet us at Kanab and a letter to Harper’s for Beaman, giving a short account of our trip from Lodore to here, and sent views. After dinner we all prepared to leave the Hamblin boys packing the mules with fossils, negatives, maps, records, &c. of the expedition, and we loading our boats. Bish and Steward went out to measure Gunnison’s Butte. We bade the pack train good-bye and the “Emma” and “Canonita” dropped down a mile and camped for the night, the “Nell” staying behind for Bish and Steward. It came in about % hour. Found we had left our saw back at the camp we were at while waiting for the Maj. The Maj. sent Fred and Beaman back after it, much to the latter’s disgust, it being 5 or 6 miles away. I reread letters and papers, cut willows and made up our bed. After supper Fred and Beaman came in. The Maj. read Whittier till 9 o’clock, then we all turned in.

Sept. 2nd. Started out this morning at 7:15, the “Emma” first, the “Nell” dropping back to her old posish. Soon we lashed the 3 boats together and floated down while the Maj. read to us from Whittier, but the river being so shallow we separated. We are passing through Castle Valley, so called from the curious formation of the buttes in the distance. The Indians call it “Sau-auger-towip” or stone house lands. The banks of the river are 8 or 10 feet high, while above is a level, desolate plateau with foothills and bluffs in the background. At 11:30 we landed on the right side for dinner under a pretty grove of cottonwoods, a little grass and plenty of shade. I gave Jones a piece of my mind this morning and he is very civil. We started at 7:00 and soon came to the place where Gunnison crossed and is now a favorite Indian crossing. We saw that Indians had been there lately. We found part of a gun barrel that they had cut off, a fine comb of their own manufacture, and lodge poles still standing, moccasin footprints of all sizes on the ground, &c. Whole bands stay here during the winter and pile up stones in the shape of miniature forts for protection from the wind. We saw several of them. Bish took his observation here, the pole and fort were up on a bluff. Soon we started on down. Shortly we came to some carbonate of lime formed by hot springs. We stopped and got a few specimens. We camped for the night on

“Powell’s party applied the name “Castle Valley” to the country generally lying back from the west bank of the river. In present usage this name is applied to the depression farther west, between the San Rafael Swell and the Wasatch Plateau, which today comprises the principal settled area of Emery County.”
left-hand bank as usual under some cottonwoods, but we have some grass to lay on. We cut willows and made our beds. After supper built a fire and the Maj. read to us.

Sept. 3rd. Did not get up until 6:30. After breakfast Maj. said, "We will stop over for the day." He and Jones [are] going over the river to examine some bluffs 5 or 6 miles away. Will be gone all day. Took a couple of canteens of coffee and some biscuits, while Steward and I went across the river to examine the bluffs along the shore. We both found fossils, mostly shark's teeth, showing that this part of the country was covered with salt water and showing that said fossils were deposited in the Mesozoic time or age. I am becoming quite geological; in fact know more about the world's formations than I ever dreamed of before. I am going to collect fossils for Dr. Paul. Those that I found this morning are valuable, Steward says. We came in at dinner time, after which Steward and Bish went out to be gone all afternoon, while I am here wearily writing up my diary since last Monday. If it was not for Morris' sake and for my own pleasure hereafter, would not be near so minute in writing, for it is a task instead of a joy. I took 2 o'clock observation for Bish. Beaman is making him a shirt out of buckskin. Supper about ready. I am going to read, so good-by old diary. About 7:00 the Maj. and Jones came in; Fred and I went across after them. Jones is just about "played"; both are very tired. A few minutes afterwards Bish and Steward came in with a lot of specimens they had found in a cave some 4 miles back of camp. They are of a beautiful crystallization of pearly whiteness. Took 9 o'clock observation for Capt. Sat, talked and smoked cigarettes around the camp-fire till 9:00.

Sept. 4th. I forgot to say that we made 17 miles on Saturday. We have heard shots up the valley yesterday and this morning; I suppose Indians are at the crossing. We started out this morning at 8:30 o'clock, was [were] delayed by the Capt. platting his map. The banks at first were heavily fringed with willows with here and there a clump of cottonwoods, but it gradually ceased and low rocky hills and bluffs began to show themselves. Curious rocks and shales abound and are seen in all shapes and forms. Maj. and Jones shot at some white swans, their wings tipped with black—perfect beauties. The river is very shallow, and several times found ourselves aground and were forced to jump out of the boats and drag them into deeper water. The "Dean" was far the most unfortunate. About 3 miles below camp the "Nell" stopped to let Steward examine some rocks while the other boats went on. We ran a few rapids, but as they do not amount to much now keep no account of them. We landed at 12 for dinner under a cliff 75 or 100 feet high and among the rocks on a sloping talus only a few feet wide, but the place affords a
shade and plenty of driftwood, all that we require. Have run 9¾ miles. About 20 minutes after we landed, the "Nell" came sailing in. Jones is a used up "community" [commodity]; some are lying on the rocks, some helping Andy to cook and the rest in the boats writing or sleeping. I put up the barometer for the Capt.; he is helping Andy. Starting out at 2:15 we ran through the country abounding in low hills covered with sagebrush and sand; in fact the surface is nothing but sand. Now and then we pass by islands of various sizes, some bare and others covered with green grass, willows and trees. Have seen some scrub mountain oaks. The river shallow as usual; the "Canonita" stopped on a gravel bank to take a picture of a queer looking butte that the Maj. called "Dellenbaugh's Butte," while the other boats went on. After we were through we started out after them; caught up with them at Undine Springs. There are about 150 ice cold springs that come boiling up above the water's edge near a vertical cliff 150 feet high of red sandstone. The river water was quite warm around them, while they were ice cold but tasted sour. At 4:30 we came to the San Rafael River and camped just above it. We had to climb up a steep bank with our things when we found bushes, trees, sand, etc., and Andy went to cooking, while we made our beds. The Prof. gave me a towel; told us what the old doc at Uintah said about the Maj. being away at Salt Lake. He asked Prof. if he had any papooses, etc. Helped Andy wash dishes, and afterwards have written my diary by the camp-fire. Have made 14 miles today. Will stay here tomorrow. Had a glorious sunset.

Sept. 5th. After breakfast the Maj. and Jones started out for a 2 days' tramp up the San Rafael, while the rest of us went to work picking up pieces of flint arrowheads that are scattered around here within a small space. The Maj. said that this was the old workshop of the Indians, flint being found here. The Indians in crossing the river would camp here and make a supply of arrowheads. We found fragments and pieces of these heads but not a perfect one. Some of the chips are very beautiful, clear as crystal and mottled or spotted with red; others are clouded with all colors. I gathered about a quart. Steward and I crossed the San Rafael and climbed the opposite cliff and though we found the remains of several wickiups, found not a flint. We are camped in a pretty little grove of cottonwoods with plenty of grass, sand and leaves for a carpet. Took time for the Capt. in the fore and afternoon. After dinner copied the barometrical observations; it was behind over a month. Finished it by the camp-fire at 9:00.

Sept. 6th. The Capt. and I were up by ½ after 5:00 and got breakfast ready by the time the rest were up. The Capt. and I filled the large canteen with coffee and 2 smaller ones with water.
The Capt. armed himself with a Colt's Navy, an aneroid, portfolio and 4 biscuits and some sugar; myself with the 3 aforesaid canteens, a Smith & Wesson six-shooter, cartridge box kindly loaned me by the Prof. for the occasion, and with Steward we rode across the river, Steward going one way to examine some cliffs a short distance away, while the Capt. and I made for a butte we thought was about 6 or 7 miles away, but to our sorrow we found before night was at least 15 miles. We started out feeling fresh and happy and chatting away pleasantly on different topics and walking at a brisk pace. The way at first led us over bare white sandstone that stretched for miles around us with here and there a little patch of earth or sand, rather. We were gradually ascending as we kept growing nearer the butte. It seemed farther off than ever, but still going on and up we were suddenly stopped by a deep gully with vertical walls of about 200 feet without a break and were compelled to go up along its brink for 2 miles, when we came to its head and passed around it, and right at its head we found a splendid water-pocket holding about 800 or 1000 barrels of water, clear and cold as crystal, where the sun never shines. Water is a precious article in this desolate waste. We knew if we got out of water where to come to get it. There were several isolated buttes to the left of us but we passed them one by one, but the butte we were striving to reach seemed farther and farther away. The morning which had been cloudy and cool was soon changed by the hot sun bursting through the clouds and heating the sandstone beneath us. We came to another and wider gully; down its sides we crawled, and found ourselves in a grove of scrub oaks, cottonwoods and willows. We had been saving up our water but in spite of our efforts one canteen was empty, but we hoped to find water in the gulch somewhere, and so followed the bed of a creek to its head, but found that it was dry, though water had been there a few days ago. We climbed up its wall and found it only the wall of another gully. We found some trouble in getting down but when we did get down, to our joy we found a deliciously cool cave with a stream of cold running water running through it. The cave was 100 feet long, 30 wide and 8 feet high in a crescent shape, the floor covered with beautiful changeable buff-colored sand. Bish said it should be called "Clement's Cave." We drank all the water we wanted, drank some coffee, and then filled the coffee canteen up full with the now warm water of the other canteen and then filled up the small canteens with pure cold water. We then washed ourselves, drank again, and feeling greatly refreshed we climbed up and out again and once more started for the butte, which was now growing much nearer. We crossed another gully and found ourselves walking at a swift pace over dark red sandstone, but when within about 2 miles of
the butte we were on the hard white sandstone again. The sun shone down hotly and we were faint and weary, but we saw the cool shadows of the butte, bent all of our energies to reach them and finally we climbed up into a delightful little nook between a couple of huge boulders of red sandstone where a cool breeze came blowing through. Being just about “played,” we laid down on the ground for a short time, then ate a biscuit apiece and a little sugar, sweetened our coffee and drank some of that, and then stretched ourselves out again and fell into a snooze. Woke up at 2:00. We left the boat at 7:30 in the morning and reached the butte at just 1:00; the butte instead of being 6 or 7 miles away was fully 15 the way we came. Walked it in 5½ hours. After resting we tried to get on top of the butte and commenced walking around it, which was 2½ miles more, but finding it “wormy” concluded not to get on top. Said worms consisted of vertical walls 500 feet high of dark red sandstone. It had a sloping talus of about 50 feet high. We completed the circuit and seeing that no mortal person could get on it unless he had wings, and there being another butte ahead the same height 2 miles farther on, we made for it, but at first it baffled us, but on going around it we found a sloping wall of smooth white sandstone on an angle of 45 degrees, and up it we went on hands and feet and soon had the satisfaction of knowing that we had triumphed. The Capt. set his compass and began taking topographical observations of the surrounding country while I noted them down on paper. It was very smoky and could not see very far. Could see Cathedral and Gunnison’s buttes, the canions of the Grand River, the Sierra La Sal Mountains, 40 miles away, whose snow-covered peaks glistened in the now setting sun. Here and there a solitary butte or an isolated range of low cliffs met our view. We were standing on the point of land that lies between the Grand and Green rivers before making the junction and forming the Colorado. Our trip had been a hard one, a long dreary one, but the view that we saw from Lily Buttes amply repaid us for our hardships. So lonely, so gloomy, so grand. The first butte we called “Bishop’s Butte” and the one we were on I named “Lily Butte” in honor of Sister Lily. It is in a half circle and has 3 peaks to it, or rather it is 3 buttes connected. ’Tis 500 feet high and only accessible on one side. It is composed of many colored sands and looks very pretty. We tried to get down by a nearer route but were baffled, and on going back we found a splendid pocket of water which we were badly in need of. Surely a kind Providence has lead us today. Drinking our fill and refilling our canteens, started out for camp at 5½ p.m. We wanted to get across the gullies before dark and walk to camp after dark. We found a piece of broken crockery, showing that the Aztecs had lived here some time. We hurried on as fast as possible but in
spite of us the sun sank and darkness came on apace and we were a long way from the first gully. At last we sat down on a rock beneath the twinkling stars, ate our [one?] biscuit apiece, all of our sugar and finished our coffee, which by this time was greatly reduced by our adding water. Feeling rested we went stumbling on over sagebrush and rocks, now up, now down, till finally we came to the gully, but being dangerous to descend at night we made a torch out of some dry cedar. After trying many ways, reached the bottom, found ourselves in a thicket of brush and a few cottonwoods. We were very careful not to set fire to them, but soon came to a lot of dry rushes and after putting out one or two fires we buried the torch. After struggling through a while longer we cut a few willows, drank up all of our water, placed our revolvers by our sides and laid our weary bodies down to catch what slumber we could.

Sept. 7th. We passed the night at last. We kept waking up at all times; when one side was chilled through we would turn over on the other side and let it thaw out. 'Twas lucky that the night was warmer than usual. We got up at 4:30 feeling rather stiff and sore but found that we were about 10 miles from camp. The gully we were in was filled with scrub oak and cottonwoods. Climbing out again made for camp, walking over bare white rock and red sand. We got a supply of water at one of the pockets in one of the gullies. Went about 4 miles from camp and just as we were descending the last of the gullies we heard our 3 signal shots and knew that the boys were out hunting for us. Answered them with my revolver and soon we heard the Maj.'s voice: "How are you, boys?" and on looking up saw him and Jack on top of a gully. We soon joined them. They had been feeling quite uneasy about our not coming in last night; had kept up a big fire all night with someone sitting up waiting to hear our shots, and this morning had got up at 4:00 o'clock, had breakfast, and most all of them had started out in search of us with water, coffee and provisions. The Maj. said he was afraid we had got out of water and were wandering around about half crazy. The Prof. did not know but what the Indians had gobbled us, &c. The Maj. and Jack had a canteen of coffee and 2 of water, a little brandy, a whole loaf of bread and some meat. The Maj. signaled the rest that we were found, and they started back to camp and brought down the boats 2½ miles down the river to meet us there, it only being 1 mile to the river from where we ate breakfast. Soon the Prof.'s boat came down and landed beneath the cliff we were standing on, the Maj. and I going down one way and Bish and Jack another. Before we got down it commenced raining, and so the Maj. and I took refuge under an overhanging cliff at the bottom of the gorge. We then made some cigarettes and just as we were smoking and feeling com-
fortable the wind suddenly veered, blowing the rain and water that was falling over the cliff under which we stood in onto us and drove us out, and being wet through, made for the river. The dry gulch of a few moments ago was now a cataract of water. Soon we came to the Prof., Bish and Steward, standing under the cliff facing the river. Steward luckily had some dry clothes in the boat and the Maj. and I soon had them on. As we all stood shivering, all at once from over the opposite cliff came several torrents of red mush pouring into the river, soon converting the clear river water into so dirty and filthy a stream as one ever saw. Soon others appeared up and down the river, while on this side the cliff over 200 feet high, nothing but bare white sandstone; the water came pouring in clear little streams, dozens of them, some coming down in one unbroken fall, others falling on some projecting ledge would be broken into showers of spray, then collecting, going down to the next and then to the river beneath.  

The stream coming from the gorge was increasing every minute, so Steward waded across it up to his knees and brought the boat to our side of it. The rain was about over with now and we concluded to build a fire and get dinner, so gathering a lot of driftwood soon had our coffee boiling. The bread was baked this morning, with plenty of meat with it, for Bish and myself, and so came into play at the present time. As we were eating the other boats came down; had been detained by the rain. After greeting us kindly they went to work and got their dinner, after which—loading the boats—we started down Labyrinth Canyon, which we are now in. The walls are very low, ranging from 50 to 500 feet high but vertical. In the afternoon we stopped 1½ hour for Fred to finish some sketch and after that it again commenced raining and rubber coats and ponchos were all the rage. We went on, making 7½ miles by 5:30. Landed for the night on the left side, cut our way through the willows that lined the banks, commenced pitching our tents in a half circle, cut a lot of willows and spread them—our blankets beneath them [sic], then built a rousing big fire in the center of the group. We then built another fire for Andy to get supper by, which was soon eaten up by hungry explorers. We had a storm in the mountains, the first rain that has amounted to anything since leaving Illinois. We are now campaigning in earnest. That night we lay snugly rolled up in our blankets and were lulled to sleep by the patter of the rain on the tents.

Sept. 8th. On waking this morning feeling rather stiff and sore after our at least 30 mile walk, found everything dripping wet and looking gloomy and desolate. Going down to the river

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*Hundreds of these cascades, falling from the canyon's rim after a sudden shower, present a unique sight never to be forgotten by those fortunate enough to have seen it.*
to wash found the river dirtier than ever, and we are compelled to drink it. After breakfast we took a picture of an alcove across the river. When we were through the Maj. had climbed the bare rocks behind us and found some more views, so climbing with the boxes on our backs were soon at the top, finding pure water in the hollows on the rocks. The river makes a complete bend here, the picture showing the view on both sides. After taking a few more views came down in time for dinner, then afterwards went across the river and took several views of Trin Alcove. Spent all afternoon there, 'tis a beautiful place. Fred and myself had a pleasant time in walking around it but the pictures will describe it better than I can. Reached camp at 5:15. Having made preparations for leaving today, had packed up everything, but we soon had our blankets spread and instead of pitching our tent we spread it over us, and the consequence was that it rained dismally all night and streams of water came running down in among us, creating moisture.

Sept. 9th. After breakfast we pulled up stakes and started out, the "Dean" going first and the other 2 waiting while Beaman finished his pictures. Of course it rained, but we made 7½ miles before stopping for dinner where the "Emma" had landed, and built a fire on left-hand side against the wall of the cañon. Bish read me his account of our tramp. The only difference between the water of Labyrinth Cañon and that of a canal, is that that of a canal is a raging current, by the side of it. Pulling out after the 2 o'clock observation, continued our journey. At about 3:00 it commenced raining again. To complete our discomforts the Maj.'s boat ran aground in the center of a sand bar and soon the entire "Green and Colorado River Exp. Exp." were tugging and lugging the "Emma" into a deeper channel. Just as we got her off the sun came out and a rainbow spanned the cañon walls. We formed rather a picturesque group wading on the sand bar with rubber coats and ponchos on. Just as we were starting again I broke my oar sharp off at the blade, but replacing it, was all hunky. We landed for the night at 6:00 on a sand bar on the right side of the river. Have made since morning 16 and 3/4 miles. Unpacking our boats we pitched our tents in a circle, built a fire between them, cut some willows, spread our blankets and got supper. Bish gave the party a blowing up for going for all the gravy before he got there. Spent a pleasant night around the camp-fire.

Sept. 10th. Finding my gun a little rusty, cleaned it nicely, spread our blankets out to dry, also dug a well to get some water fit to drink. The river makes a bow-knot thusly [diagram], so while we have come 15 miles had in fact come about 3. A high ridge separates the river here and the Maj. wanted a view of the bend, so Beaman and I started up with boxes, water, &c. In
going up a steep place I slipped and fell down about 20 feet with that infernal howitzer on my back. A bruised leg and torn breeches the only damage. On getting to the top, however, had a magnificent view of the river and the surrounding peaks and crags. I left Beaman up there to take his pictures while I came down to take the boat around to the other side of the ridge, about 6 miles around, and $\frac{1}{3}$ across it. In cutting through the willows I had to crawl through a beaver’s hole to get through them at that place and [came near] mortally scaring Jack to death, who happened to be sitting at the end of the hole; thought I was a grizzly. Packing the boat we started out, myself in command, and Andy rowing. We came through all right. Andy shot a beaver. We landed on left side. Steward, Fred and I went across, climbed the ridges, helped Beaman down with his boxes and had a hard time of it. After dinner Prof. and Jones climbed out back of camp; the Maj. and Steward went across to collect fossils, while Beaman and I fixed up the chemicals. Made some lemonade from citric acid. Bish and I measured the cliffs on both sides of the river, found that the walls are from 800 to 1000 feet high at this place. After supper the Maj. read to us from Whittier by the camp-fire, and then we all turned in.

Sept. 11th. Started out at about 8:00, pulled steadily all forenoon, the canyon walls becoming more and more broken in solitary buttes, buttresses, peaks and towers. Some presenting very fine appearance, and varying from 600 to 1200 or 1500 feet high, are composed mostly of dark red sandstone. At 12 M. we landed on right bank for dinner, dug a well or two for clean water near the river’s brink, in the sand. Beaman took a couple of views from here looking across the river. Started out at 2:15, rowing hard against a dead stream. At about 3:30 we came to a fine view of broken rocks, buttes, and windows opening between them and climbed a steep bluff and got a view of it. Just as we were taking it, up came a heavy shower, completely wetting us. Hurriedly packing up we started for the boats on the run and found that the “Nell” had gone on down to select a camp, taking Andy and leaving Steward. Putting on our ponchos we pulled out with a

*In the mouth of Hell Roaring Canyon, near this camp, is an inscription by D. Julien, 1836, one of several along the river. He also left his name along the Uinta River, dated 1831. Denis Julien was a trapper and trader out of St. Louis several years before joining Antoine Robidoux in the Uinta Basin. His last inscription is in lower Cataract Canyon, accompanied by a crude picture of a boat, and he may have been drowned soon after cutting it, since no further trace of his movements can be found. Another inscription opposite Lake Creek in Glen Canyon dated 1837 may have been made by some of his party. Powell did not see any of these. Julien’s inscriptions were discovered by Stanton’s expedition in 1889-90. The Lake Creek inscription was found by Julius F. Stone’s party in 1938. [Most of the known facts about Denis Julien are set forth by Mr. Kelly in “The Mysterious D. Julien,” Utah Historical Quarterly, July, 1933, vol. VI, pp. 83-88.]*
will, passing by many and many views that would set at least 3/3 of the people in the States crazy. One represented an archway to some monastery, while two streams of water came tumbling down onto it from above. At 5:00 we caught up with the "Nell" just as she was landing for camp. Cutting our way through the dense willows that lined the bank we pitched our tents, built a cheery fire, cut some willows and made our beds. After supper we made our cigarettes and smoked cozily while the Maj. read to us from Whittier. I wish that the dear ones at home could see us as we sat around the fire.

Sept. 12th. A clear sky this morning and pulling out early in hopes of reaching the Grand and Colorado river tomorrow night, some 30 or 35 miles away. We made 15½ miles yesterday. At 10½ we came to a lovely butte resembling the Grecian cross. We landed to take a view of it while the boats dropped down about a mile around the bend and went into camp for dinner. We found some pure water on top of the rocks. After taking 3 or 4 views of the different buttes we made for camp about ¾ of a mile away; found that the Maj., Prof. and Steward [were] on the other side of the river geologizing. When they came in the Maj. said that he had found some more pictures for us across the river. So after dinner Beaman and I got into the Maj.'s boat and after dropping down a mile landed on the other side. Left Fred at the boat sketching, while the Maj., Jones, Beaman and myself climbed back for a mile and ½ with the boxes, and getting on top of a mound of yellow sand went to work. Oh, but what a grand and desolate scene we beheld—nothing but bare rocks almost level, with peaks, buttes and terraces and towers rising around it. In the distance could plainly see the tortuous winding of the river cutting its way through (some 50 or 100 feet) this valley of rock. Beaman took 6 or 7 views of it. Jones went about a mile away to a water pocket to get some water. About 4½ we reached the boats, finding that the Maj. had gone on down to select a camp. We reached it at about 5½ and had to take a view of the bend of the river before supper was ready—a fine one. We have run out of Labyrinth Cañon, are now at the head of the [Stillwater] Cañon of the Green. Jones left an axe at our dinner camp and it now reduced us to one. While I was cutting a log it (the log) fell into the river and was soon out of sight around the bend. Have made 10 or 12 miles today. Maj. read Emerson to us.

Sept. 13th. After breakfast Beaman took a couple of fine views, one of the river and another of the old bed of the river as it comes winding in and around the bluffs, while I fixed up the negatives and varnished them. The Maj. and Prof. climbed out; they came in at 10:45. We then packed up and pulled out, running till 12½. This cañon is about the same as
Labyrinth except geologically. We camped on some rocks on right bank for dinner, starting out again at 2:15. At 3:00 we landed to climb the bluff, take some views, while the Maj. and Prof. climbed out onto a high ridge. After taking 3 fine views we started out at 4½. We are now going down the river where it is narrow with vertical walls on both sides about 300 feet high. We stopped here and there to pick up driftwood for supper and at 6:00 landed for the night on right bank on a sloping talus of rocks. Built our fires, got supper and made our beds. Found any quantity of the purest kind of salt clinging to the rocks. Fred is 18 years old today. Have made about 10 miles; are 10 miles from junction.

Sept. 14th. After breakfast Beaman and I rowed down a mile or so to take some views looking up the river. After taking them I have been writing up my diary for the last week while waiting for the other boats to come down. 'Tis now almost 10 o'clock. They are coming—no, it is not them. After waiting till 12:00 we hear their signals. We cross the river (I breaking another oar in doing it), beach the boat in the soft mud and walk back to camp, finding the Maj., Prof. and Jack had gone up the river to collect fossils, &c., but we see them coming around the bend and they are soon with us eating dinner, after which Beaman and I walk back to our boat, shoving her into the water, replacing my broken oar, and wait for the other boats. When they come we take Andy and traps aboard and start on. The walls are growing higher; are from 800 to 1000 feet. The Maj. and Steward stopped about an hour to collect fossils and shortly after stopped again for the same purpose, the Prof. measuring the walls with a theodolite. After running about 5 miles we camp for the night on right bank at 4½. The Maj. and Prof. climbed out. Helped Andy unpack the boats and make our beds. While Steward was hunting for fossils along a ledge of rocks back of camp [he] found a couple of stone houses, calling us up there. On getting up there found a couple of stone huts plastered up with mud that no doubt had been built by a hunter that had been hunting here—the large one used as a shelter, the smaller one for storing away provisions. He must have had a lonely time of it in this desolate country. The Maj. and Prof. on coming in at supper time said that they had found 3 or 4 more houses up the cliffs; that the ones that we had found together with the ones that they had found were built by the Shenemo Indians (the remnants of which are now called the Aztecs, or rather the Aztecs are a branch of the Shenemo's) hundreds of years ago, and that they had lived all along the caños from here to the gulf to protect themselves from other tribes. Beaman found a corn cob in one of the houses. The Maj.
has it now for scientific use. As we sat around the cheerful camp-fire the Maj. told us all about them."

**Sept. 15th.** Andy woke me early to accompany Steward and Fred to see the huts that the Maj. and Prof. had found last night, and climbing up along a narrow ledge soon found the ruins of a stone hut, the standing wall about 6 feet high, and hunting around found several pieces of fine pottery and arrowheads and any quantity of chippings. On returning to camp the Maj. said that he, Jones, Andy and Jack would climb out here while Beaman, Fred and I waited for them; the Prof., Bish and Steward to go on to the junction 8 miles down farther. After breakfast the Maj. and party started out while Fred and I went back to the ruins to collect some more relics, finding more pieces of pottery and arrowheads. Getting tired of that we sat down inside and read the *Chicago Times* that I happened to have in my pocket. At 11½ we saw the Maj. and the rest coming back, and on going back to camp Andy showed us a splendid earthen jug (with a lot of split willows that the Shenemo’s used to bake bread inside of it) holding 4 or 5 gallons. Found it under a rock with a small rock on top of it. The willows were tied up in bundles with small cords made from wild hemp but rotten with age. After dinner packed the boats and started for the junction. The river being very shallow we ran onto several sand bars and in pulling off of one of them I broke another oar but replaced it. The canyon is narrow and walls rise up vertically for 1200 or 1500 feet. It is by all odds the prettiest canyon we have passed through. At about 4:00 we came to the union of the Green, Grand and Colorado rivers. The brand [branch?] is called “The Pride of Colorado,” and is about the same size as the Green, as also is the Colorado, as far as we can see here. The Maj. has decided to call Green River Cañon “Stillwater Cañon.” The cañon at the mouth of the Grand is unnamed and unknown and just around the corner is the dreaded Cataract Cañon. I fear we will have trouble in it. The Maj. has told us to expect 3 weeks of hard work in it. We saw the “Nell” moored to a wide sand bank. We ran to the left bank for the “Emma,” ran aground near the right and had hard work to get off; finally it dropped down ½ a mile below the “Nell” while we rowed upstream and landed up ½ a mile above the “Nell,” making “Junction City,” like Washington, a city of magnificent distances. Andy’s camp is near our boat, the “Nell’s” tent is near them and the “Emma’s” fully a mile

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*Major Powell later founded the Bureau of American Ethnology. His use of the name “Shinumo” to designate ancient cultures has not been continued.*

*The Grand River is now officially designated as the upper Colorado, although the Green River is geographically superior and was so considered by early trappers and explorers. In 1869 Samuel Adams and party attempted to navigate the Grand, but never reached the junction. See this Quarterly, 1947, vol. XV, p. 141.*
from our boat, but we have a smooth hard sand bank, plenty of shade, grand scenery and a pleasant camp. The walls around us are about 1200 or 1300 feet. We cut our willows and spread them with our blankets on a little shelf of sand and 3½ feet high under some huge cottonwoods. After supper built a fire nearby but so much talking going on I went down to the Capt.'s tent and wrote my diary till 9 o'clock.

Sept. 16th. After breakfast the Maj., Beaman, Jack, Jones and Fred and myself rowed upstream for about a mile in the "Canonita." Landed at a gulch leading up the right wall of the cañon. After a long weary climb of about 1½ hours up 1200 or 1300 feet and walking along a smooth plateau of white sandstone, we got a view of a country that repaid us of old for all our hard work in lugging these "mountain howitzers," the dark tent and camera boxes up. Ten thousand pinnacles and buttes rose around us, some red and some white sandstone; the Colorado River to the right and the Green to the left of us, the Grand coming in in front of us. The rock on which we stood was seamed and scarred with many a dangerous crack. We soon had the dark tent up and we commenced taking views. We saw Steward on the other side of a gulch but could not get to him. At noon we ate our lunch under the shade of a cedar tree, then made some cigarettes and smoked awhile. Fred began to sketch, Beaman to photograph; Maj. and Jones went off toward the pinnacles while Jack and I went from pine to pine tree in search of pitch for the boats. We gathered quite a lot of it and getting tired and thirsty we hunted out a shade under the rocks and drank from one of the many pockets of water, then making our cigarettes enjoyed a quiet afternoon siesta, looking at the sublime works of nature. Oh! the eternal silence that reigns here, only broken when some storm sweeps over, filling the gulches with torrents of water. While sitting there talking we saw the Maj. and Jones coming back and picking up our bundles of pitch we soon joined them. The Maj. said that they had seen a wonderfully grand country behind yonder buttes; that we would leave the boxes up here and come up again tomorrow. Calling to Beaman and Fred they came up to us; putting the boxes under some rocks and eating up the rest of the bread and meat, returned to the boats, then to camp at 4½ p.m. Wrote in my diary till supper time, after which I built a fire for the Maj. while he wrote his journal, and then went down a mile to Jack and Fred's camp and spent the evening very pleasantly till 10:00. In coming back over the sand "under the starlight alone" wished many and many a time that Morris was with me. How he would enjoy it.

Sept. 17th. This morning at 7:00 the Maj., Prof., Steward, Jack, Fred, Andy, Beaman and myself got into the "Canonita" and rowed up to the gulch and climbed up. Fred, Andy, Jack
and myself were behind; took our time to it, but the rest rushed up. We soon overtook them among the pinnacles, peaks and buttes. Setting up our dark tent commenced our work. At noon we built a fire and made some good coffee, ate our bread and meat, then packed up the things, moved a mile farther on and put the things up again, I focusing the camera while Beaman coated the plates. Again packing them up moved about a mile, set them up and finished our work about 5:00. The scenery is simply sublime; I cannot describe it. We wandered from park to park, each enclosed with buttes and pinnacles and covered with sand (the parks), cedar and pine trees. Oh well, such a sight I never again shall behold. The Maj. said he had never seen such a sight before—called it “Sin-av-tou-weap” meaning God or Devil’s Land in the Sheviwits [Shivwits] language. We have taken 19 views of it—it ought to describe it. Packing up, climbed down to the boat taking turns in carrying the boxes.

Sept. 18th. The Maj. called us early this morning and told us that he wanted us to climb up the other wall and take some more pictures. Beaman not liking the idea told him that he (Beaman) had to “fix his chemicals” before they would work. The Maj., believing him gave up, and taking Jones climbed up for topographical work. I am mighty glad that Beaman’s chemicals “were out of order” for I had plenty of work to do and did not feel like lugging that infernal “howitzer” up 1200 or 1400 feet. In the forenoon cut down my oars, making them about the best pair in the “biz.” Did some mending and washing in the afternoon. Had a pleasant time talking and chatting with Steward and Fred, the former arranging his fossils, the latter finishing his sketches. At 6½ the Maj. and Jones returned. We had beans for dinner—they were gay. We are short of rations and will not have much time for stopping to climb out.

Sept. 19th. Yesterday Beaman and I took 3 views of the junction of the rivers. We are short on glass, can only take 40 views more till we meet the pack train at the Crossing of the Fathers, 160 miles away. The Maj. will use up the 40 glass

*Dellenbaugh was official artist for the expedition, but the two young men were not particularly friendly and Clem seldom mentions his artistic activities.*
before reaching the Dirty Devil at the end of Cataract Canyon, 40 miles long. We have only 25 or 30 days’ rations and have shut down on sugar, Andy putting a cupful in each kettle of coffee. Are about out of beans; have not had any for some time. They tasted good yesterday. Do not cook as much meat at a meal now as we used to but eat more bread and “sop;” 100 lbs. flour lasting us 7 days. We have now about 350 lbs. Yesterday on looking at some negatives that had been packed away I found a couple of fine ones broken. Maj. told Beaman to be more careful. This morning before breakfast cleaned my part of the boat out nicely. After breakfast we packed her as also did the rest of the boys their boats, and at 10:00 a.m. we bade Green and Grand rivers farewell and started on the Colorado, down dreaded Cataract Canyon. We had smooth water for the first 4½ miles and then came to two of our old friends, “regular roarsers,” one after the other, and of course our famed [?] kicking portages at both of them. They are not so pleasant as they “used to was,” for the water is colder and filthier. Bruised my leg badly on one of the rocks and was swept away from the boat, but was brought up against a rock all O.K. We landed at 11½ for dinner; have made 5 miles. The Maj. told Fred and Steward and I not to “go” for Bish; said he could not take a joke. Wrote my diary up to last night while Andy was cooking. At 1:15 started out again, running rapid after rapid till 7 had waxed and waned and 5 kicking portages—9 rapids, making 7 portages for today. Some fearfully long ones—one was ½ a mile of fall, Andy and I wading and swimming by the side of the boat, now hanging onto her, kicking her off the rocks and again being dragged by her over them, each crew letting down its own boat. The current is very swift in the rapids and soon reduces one’s breeches to shreds. The water is chilly and we are glad to get in the sunshine. The walls vary from 1200 to 1500 feet, nearly vertical and are broken into crags. Have made 9½ miles today. We landed on left-hand bank for the night at 4½ under a cottonwood tree. Wrote my diary while Andy was getting supper.

Sept. 20th. This morning the Maj. and Fred climbed out across the river. Bishop and Steward climbed some gulches for geological and topographical work. I helped Beaman make a couple of pictures. Prof. and Jones are busy taking observations. Jack is doing some washing and I am putting leather on my oars. By and by the Prof. and Jones came up and said that they wanted Jack and myself to help them let down the “Nell” below the two

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6From Powell himself, and from Sumner’s journal, the men knew what to expect in Cataract Canyon where many men have since lost their lives. Its difficulties depend upon the stage of water. Dr. R. G. Frazier’s party went through in 27 hours’ running time on high water. Others have run all rapids without portaging or lining. On this date the water would normally be at a medium low stage.
rapids just below camp and about $\frac{1}{2}$ a mile long. We rowed across to the other side of the river and then Jack and I began wading down with her while Prof. and Jones held on to the rope. Coming to a bad place we tied the other end to the stern of the boat and we all held on to the rope and gradually let her over, but just after getting over she got a bulge on us, jerked the rope out of our hands, piling us "promiscuous." Away she went, sailing gaily over the rapid without striking a rock and finally drifted into an eddy. In the meantime all of us were scrambling over the rocks and along the bank after her. Visions of wrecks and of short rations danced before us. Jack simply swore an oath. Jones said, "she has gone to the devil sure." I merely answered, "you bet." We soon overtook her as she was being slowly sucked over the falls. Jack and I swam out to her some 3 or 4 rods from shore, climbed into her and soon we brought her all right to shore. We then let her down over the other fall and across the river. Walking back to camp I went back to my oars and failed to hear the call for "grub" and did not get any till after the rest had finished. After dinner we, that is Jack and I, let down the other 2 boats in safety over the rapids. 'Tis hard, miserable work. We have only made $\frac{1}{2}$ a mile today, and 2 rapids, both portages, one on the right bank. As we were coming down with the "Canonita" the Maj. and Fred came in hungry and tired, having climbed 1850 ft. Fred killed a rattlesnake and brought in the rattles. Made a fire on the sand and soon had supper, after which did some sewing on my breeches; the water is hard on them. Built a fire around which we are gathered, some writing, others smoking. 'Tis a beautiful night, the moon shining brightly just over the opposite cañon wall. Two years ago [July 21, 1869] the "Emma" was swamped in trying to run these rapids and lost 3 oars. They laid over a day to make new ones. We found one partly made. I wonder what they are doing at home tonight.

Sept. 21st. This morning Beaman took a couple of fine views of the cañon up and down the river, I packing the boat in the meantime. Started out at 8:30 running 5 rapids, one of two bad ones. We then made 3 kicking portages, then ran 4 more rapids gaily. Landed on left-hand bank for dinner at 11:45 under a hackberry tree among huge boulders. Built a big fire and sat in the warm sunshine to dry out, which we accomplished by dinner time. Starting out again at 1:15 we made a couple of long hard portages. The water in the Colorado River is deeper and the rocks harder and sharper than in Green River; the current is far swifter, and to make a kicking or any other kind of a portage is no child's play. The boat at times will be wedged in between the rocks while we are tugging and pulling away; suddenly away she will go, dragging us after her, holding on for dear life, and woe to the unlucky one who does not keep his legs in his pockets.
at such a time. 'Tis a wonder that some of us have not had a leg or two broken. All of us wear horrible scars from our knees downward to remind us of the days when we made portages. The walls are growing higher and vertical, about 1600 feet. Before dinner made 5½ miles; after made 3½ miles by hard work by 4½ p.m. Have made 15 or 16 rapids, running about ½ of them and portaging the rest. Are camped on right-hand bank on barely enough sand to accommodate us all. The water is becoming clearer. Read some of Jones's Lacon papers around the camp-fire tonight.

Sept. 22nd. Beaman took a couple of fine views before leaving camp this morning. We then made two long hard portages through dangerous rapids, all hands to each boat. By the time we were through with them 'twas 11½ o'clock. Camped on left-hand bank on the rocks for dinner. Have only made about ¾ of a mile. Beaman and I went back to take some views of the rapids before dinner, I taking one or two of them. Took a couple of instantaneous views as the water came boiling over the falls. Left our boxes there till after dinner. After taking a couple more "backed" the boxes and carried them about ½ a mile below camp to the next fall. Set them up behind a huge rock and went to work while the other boats were being let down. I went back to help them after doing all I could for Beaman, but they had got them all below the rapid. The Maj. said he would leave the "Canonita" for Beaman and myself to cross in when Beaman got through. I went back, helped Beaman pack up and lugged the boxes back to the boat, then we crossed over to where the other boats had gone into camp at 3:45. Have made by hard work about 1¾ miles. The boats are all leaking badly, the "Nell's" main cabin being half full of water. The "Nell" and "Emma" were unpacked and hauled up for repairs, caulking, &c. Beaman and I busy preparing chemicals, &c. We are on a little pack of sand, just enough to spread our blankets on. Built a big fire, read till 9:00. Have made 5 rapids.

Sept. 23rd. After letting down the first rapid this morning Beaman and I pulled across the river to take some views of the cañon. On coming back across found some of the boys waiting to help us down over the next rapid, a long hard one. We then ran the next two and landed just as dinner was ready on right bank under a hackberry tree, after which we again let down over a nasty little rapid, when we came to a roarer, you bet. The river here is forced through a narrow channel about 50 ft. wide and has a fall of 6 or 8 feet right down, but luckily not having many rocks in it. The Maj. decided to run it and have Beaman take an instantaneous view of the boats as they ran it. So getting our things ready the "Emma" started out, all of us watching her eagerly, for it was a bad, dangerous rapid and the Maj. only
experimenting. Beaman had the camera all ready. The water is as smooth as a mirror as it comes over the fall for the first 4 or 5 feet and then is churned into a perfect sea of foam beneath. The "Emma" came on slowly at first, and then suddenly plunged into the mad waters, fairly jumping from wave to wave, the waves breaking over her from time to time. Shooting by us in no time at all she ran the rapid splendidly, but Beaman failed on his view. Tried another when the "Nell" ran it and also failed. We then packed up, put them in the boat and gaily ran the rapid ourselves. We soon were with the other boats at the head of 4 long rapids together. We let down them, each crew to its own boat and landed for the night on left-hand bank at 4:45. Have made 3½ miles and 10 rapids, making 8 portages. The river now is nothing but rapids huddled together. The water is not quite low enough to make kicking portages pleasant, and not high enough to run them. Every night we are lulled to sleep by the music of the one just above camp and the ominous roar of the one below. The scenery is very grand but grows monotonous.

Sept. 24th. Started out at 7½, running the first rapid and letting down the second over a fall of 8 or 10 feet perpendicular almost, then ran 2 more, made a portage over the next 2 and then running 4 more in succession. Landed at 12½ on left bank for dinner and camp. Have run 6 rapids and made 24 portages, making 10 rapids in all. Made 4½ miles. Will stay here till Tuesday morning repairing the boats and resting. Are camped at the entrance of a gulch and on a sand bank, a few hackberry trees affording shade. The walls of the cañon vary from 2500 to 3000 feet high, vertical. The sun comes up over one at about 8:00 a.m. and disappears over the other at 3:00 p.m. After dinner the Maj., Jones and Beaman climbed up the gorge and did not get back till after supper and dark. We hauled the boats up on the beach after unpacking them, washed off their bottom and will leave them to dry till tomorrow, when we will pitch them. I practiced at firing at floating foam on the river. Prof., Steward and I spent the afternoon pleasantly talking and then we wrote up our diaries. We had beans for supper. We are having beautiful moonlight nights here in the cañon; the weather is pleasant, thermometer standing between 90 and 94 at noon in the shade, but the mornings and nights are cool. Do not feel the heat much. We cut a few willows and at 8:00 p.m. we all turned in to snooze.

Sept. 25th. This morning after breakfast the Maj., Fred, Jones, Beaman and I started up the gulch, Beaman to photograph and Jones to map the gulch. About half way up it the Maj. and Fred turned off to climb the cañon wall for topographical purposes, while the rest of us kept on. The scenery was very fine.

The "wet plate" process of the period was not "fast" enough for this kind of action photography.
the gorge narrow and winding with perpendicular wall from 1500 to 2000 feet high, while at the end of it a stream of cold water came down emptying in a pool some 20 feet deep. The water was impregnated with sulphur. Setting up the dark tent I took the camera and climbed the talus and put it in different positions while Beaman prepared the plates. I had almost forgotten to say that we had brought our dinner along with us. While we were taking pictures the Prof. and Steward came up, and building a fire we soon had our coffee boiling and made, which with cold bread, meat and cigarettes made a very romantic repast. The Prof. then returned to camp, Steward to geologize, Jones for topographical, while Beaman and I moved our things for another view. Found that we had to wait for the light for an hour or so; then I coated a couple of plates while Beaman exposed them; then packing up we started for camp some 3 or 4 miles away when the sun was low. Soon it went down and the moon came up and we went stumbling over the rocks. We heard a shout and looking up saw the Maj. and Fred coming down the mountain. We got to camp in time to enjoy our mess of beans and in about 20 minutes the Maj. and Fred joined us. We found the boats nicely pitched and repaired and things all ship-shape for an early start tomorrow. Feel very tired, as we all do in fact. Maj. climbed about 3300 feet. We sat around the fire till 8½ p.m., and then all turned in.

Sept. 26th. After packing up this morning started out at 8:05, running the first 2 rapids and then came to a stunner. Ran the first part of it, then let down aways and then ran the lower part of it gaily. We then came to another big one and ran it, but the "Nell" came near swamping. Three waves went over her filling the bow and half filling the stern companionway, but came out all right. We, in running it, came near going over the ledge of rocks on the left; as it was we struck one of them with a thump on the keel but no damage done. It frightened the Maj. however. We ran 3 more and landed for dinner on the right bank. Beaman and I putting up the boxes took 3 pictures; one of them he had to go across the river for. After dinner we let down over the rapid just below. We then stopped for another view looking up the river, then ran 4 more rapids in succession and landed for camp on right bank at 4:20. Have made 6¾ miles, running 10 rapids and making 2 portages. The thermometer 100.5 in the shade at 2:00 p.m. The walls are from 3000 to 3500 feet high and are simply sublime in appearance, nearly vertical, almost destitute of vegetation; are mostly heavy bedded sandstone. We are running down the limestone which make the ugly rapids; the limestone is almost a blue marble. We are camped on a talus of huge rocks under the walls of the cañon, a little patch of sand affording us a place to sleep on. The moon
coming up behind some lone crag makes an impressive sight. Fred and myself sat up till 10:00 enjoying it.

Sept. 27th. This morning the Maj. took Beaman, Prof., Fred, Jones, Jack and myself up a gulch a little way from camp to take some views of it. After climbing with the boxes up a couple of steep benches, we came to a lovely place. A gulch went wind­ing up to the top of the cañon in benches, while a stream of water came down from bench to bench, collecting in pools or basins, then trickling downward. In the foreground a little grove of cottonwoods, like some old orchard, relieved the barrenness. After taking a couple of views returned to camp, Beaman taking a view while Andy, Steward, Prof. and I let down the “Canonita”; the other boats had been taken down while we were gone. After letting down and taking Beaman aboard started out at 10:20, running a couple of bad rapids. Landed at 12:30 for dinner on left-hand bank on some rocks, Beaman and I setting up the dark tent and taking a couple of fine views. Mended my breeches before dinner was ready. After dinner pulled out making a portage first thing, and then ran 3 rapids one after the other, when we came to another regular roarer and of course made a portage, all hands to each boat. By the time we were through it was 4½ p.m. and we were cold and wet. So we camped for the night on the left bank on a sand bank. Beaman lent me a pair of dry breeches and we all changed our clothing, built a huge fire and were comfortable. Spent a very pleasant time around the fire talking and chatting. Turned in at 9:00.

Sept. 28th. Forgot to say last night that we made 6½ miles, 5 rapids and 3 portages. This morning the “Emma” and “Nell” went ahead leaving Beaman to take a view and me to clean some dirty glass. I broke one, leaving 7 plates between here and the Dirty Devil. After we were through started out at 9:30, running 2 rapids, and then came up with the other boats at the head of a bad let down. The Maj. and Prof., thinking it a good place to climb out, started up a gulch down which quite a stream was flowing. Beaman and I set up the tent at the mouth of the gulch. I then left him and went back to help the boys make the portage. The result was that I was jerked among the rocks and in the water to my heart’s content and was fully as wet as if I had kicked alongside the boat instead of holding onto the line; but finally the boats were below and we were rejoiced with glad­ness. After dinner Fred gave me a pair of woolen breeches, for I am reduced to one pair of canvas ones. Finding a pretty little cave among the rocks Fred, Bish, Steward, Beaman and I enjoyed ourselves, Fred sketching, Bish plotting his map, Steward and Beaman reading and I writing my diary. Suddenly up came the Maj. and Prof. at 3:30, saying that we would start out at once, that they could not climb out here. Andy having some beans on
cooking, [we] concluded to have supper here. Finally all being ready we started out at 4:20, ran the first rapid and then came to one that the Maj. afterwards told us he had dreaded ever since starting out on the trip. It was a bad one, the channel being full of rocks around an island and very swift. After reaching the foot of the island it set out in full force against the opposite cliff with bad rocks in it besides. We landed at the head of the island with difficulty and let down over a bad fall and then we were compelled to run the rest which we did by hard pulling. I hope with this our last portage is over with for this year. The Maj. says he thinks it will be. We then ran another rapid at dusk, then had clear sailing for 5 or 6 miles and landed for the night on the right bank at the head of a rapid. It was almost dark and had commenced to sprinkle. Soon we picked out our sleeping places and spread our blankets with our paulins over us to keep the rain off. It soon cleared up however, and the moon came up over the crags on the opposite wall. We changed our wet clothes for dry ones. The wind blew fiercely, blowing sand in every direction.

Sept 29th. We made 9 miles yesterday, running 4 rapids and making 2 portages. This morning we were treated to a thunderstorm in the canyon. It commenced just after breakfast and kept us an hour and a half. It was [a] grand thing to see. We were huddled in kind of a cave or niche rather, in the cliff, and were as snug as you please. Could see the rain as it came up from down the cañon in gusts with now and then a rainbow spanning the walls and one over the rapid below, and then from over the opposite wall about 3000 feet high "a thousand waterfalls were set in play" in small slender threads 1000 feet long, at last disappearing in spray to collect again on some projecting ledge and continue their downward way to the river. We pulled out at about 10:00 a.m., and ran the rapid in fine style and another and another, but they are about played now and do not amount to much. In about an hour we ran out of Cataract Cañon, 40 miles long, and into Mille Crag Bend. Beaman and I rowed back ¼ of a mile to take a view while the other boats went on a short distance. After setting up our tent it commenced to rain and we had to postpone operations. Beaman got under a rock and I under the tent. After waiting an hour it cleared up and we took a fine view of the crags. The crags are fully 3000 feet high and simply a continuation of the walls of Cataract Cañon. We soon joined the other boats a mile down farther and found that the Maj. and Prof. had climbed out but had left word that he wanted another view ¼ of a mile upstream. We are camped on a lot of rocks on the left bank ½ mile from the head of Narrow Cañon. After dinner Beaman and I rowed back and took the view and returned by ½ after 2:00. We found Bish, Fred
and Steward exploring a couple of caves a short distance back of camp. They had been inhabited by the Shenemos. We could tell by the smoke that blackened their roofs. We found some corn and corn cobs among the rubbish, etc., are about 15 feet long, 8 feet wide and 6 or 7 feet high. It being nice and cool we stayed there, I writing my diary and the others at their work. At about 4:00 p.m. the Maj. and Prof. came up and said we would start at once for the Devil, but as Jones had not come in yet and it would be after 5:00 before we could get ready, concluded to stay and get an early start in the morning. After supper Jones came in. We cut some willows and spread our blankets on the sand; built a fire around which we sat and talked and wrote till 8 or 9 o'clock and then turned in. Have made 5 miles and have run some dozen rapids, small ones, however. The thermometer stood at 2 o'clock, 100 in the shade.

Sept. 30th. Was called up at 5:00 this morning and we started out at 6:15 and soon left Mille Crag Bend behind. 'Tis 5 miles long and entered Narrow Cañon. The walls are nearly vertical and about 1500 feet high, though lowering to 200 or 300 by the time it ends at the Dirty Devil. We saw a glimpse of the Unknown [Henry] Mountains and stopped to take a view of them at a sulphur spring. The other boats went on. There are sulphur springs all along the cañon and the smell is fearful. The water is quite warm in them and the rocks are coated with sulphur. After taking a view started out and in about an hour overtook the other boats at the famous Dirty Devil River. 'Tis a small dirty stream and that is all. 'Tis the outlet of a lake some 50 miles back from the Colorado. We being out of plates for pictures the Maj. has decided to leave the "Canonita" here and come up after her next spring with photographic supplies to take pictures of Mound and Monument cañons. So Beaman and I

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*From this point to Lees Ferry many cliff dwellings are found along the river and in tributary canyons, some river bars having been farmed by Indians of the pueblo period.

*Clem's mention of a lake as the source of the Dirty Devil River evidently refers to Fish Lake, about 125 miles distant, but the source of his information is uncertain. The desert country drained by the Dirty Devil and Escalante rivers seems to have been unknown to Spanish explorers and American trappers. Frémont's winter expedition of 1853 probably followed the Old Spanish Trail from Greenriver, Utah, to Bear Valley north of Panguitch, crossing the Dirty Devil just below Fish Lake; but it would have been hidden by deep snow, unrecognizable as a river. In 1866 the James Andrus expedition crossed the Escalante River near the future site of Escalante town and crossed the Dirty Devil near present Loa, but failed to name either stream. Three years later Major Powell discovered its mouth. Powell himself first gave name to the Dirty Devil River, but subsequently changed the name to Frémont River. By a recent ruling of the U.S. Board on Geographical Names, the name "Frémont" is restricted to the upper river above the junction with Muddy Creek in Wayne County, the combined river which flows to the Colorado being once more named the Dirty Devil.
repacked the chemical boxes, for we are going to leave one of them with her. The Maj., Prof. and Jones have climbed out and will be gone all day. After dinner Fred and I gathered a lot of driftwood for Andy to cook some beans for supper. Took the 2:00 p.m. observation. Have been writing my diary. Narrow Cañon is 7 miles long and ends here. Have run 6 rapids, made one easy portage today. Have been reading Macbeth. Jack caught a couple of big fish; will have them for breakfast tomorrow. Have beans and apples for supper. While eating supper Jones came in; a few minutes afterwards heard the Maj.'s and Prof.'s voices across the Dirty Devil, so Steward and I took the "Nell" and went after them. They have found an Indian trail leading back from the river so we can get down here next spring after the boat. Took the 9 o'clock observation for the Capt. Steward found a knife that one of the previous party lost here, also found traces of the Shenemos; they have lived all along the Cañon.

Oct. 1st, [1871]. This morning the Maj. said that he, Jones, Prof., Steward and Bish would climb out for scientific work, but first we took the "Canonita" across the Dirty Devil, hauled her up on the rocks and into a cave and buried her in sand till next spring. The boys then climbed out, the Prof., Steward and Bish took the "Nell" down a couple of miles and then climbed out. Beaman, Fred, Jack, Andy and I will stay in our old camp till 4:00 p.m., then row across the Dirty Devil and wait for the Maj. and Jones and then go down to the "Nell" and camp for the night and then start for the Crossing of the Fathers instanter. Have only 150 lbs. of flour, the crossing 145 miles away. Beaman took pictures of the mouth of the Dirty Devil. Have only one plate left. Have been shooting at a mark across the river, trying our guns. Made a couple of splendid shots. Have been reading Shakespeare, and at 3:30 we commenced packing things in the "Emma." At 4:00 pulled across the Dirty Devil and waited for the Maj. and Jones. I reading "King John." After waiting ½ hour the Maj. and Jones came up and getting into the boat made a very heavy load of it. We then pulled down a couple of miles, & landed on the right-hand bank near the "Nell." Could see nothing of the other boys. We are camped on a narrow shelf a few rods wide densely covered with willows, under a steep cliff. "Tis the beginning of Mound Cañon." Building a fire and cutting willows for beds was all the go for awhile. Soon Steward came in and as we

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The party was short of supplies and the photographers had run out of plates; one boat was left here so their work could be completed later if the mouth of the Dirty Devil could be reached overland. Some bits of iron from this boat were found in 1945 by Harry Aleson.

To the mouth of North Wash, formerly Crescent Creek.

See Dr. Gregory's note, p. 96.
were eating supper Prof. and Bish came in tired and hungry. Had been out some 15 miles. I have taken the observations for today. Had quite a time taking the 9:00 p.m. on account of a strong wind.

Oct. 2nd. This morning at breakfast the Maj. said that Andy and myself would go in the "Nell," Beaman would take Fred's place in the "Emma," while he (Fred) sketched. We then divided to [the] load and at 8:30 started out. The boats are very heavy with their loads and 5 men each. Mound Cañon is very wide, with low broken cliffs or bluffs and set back from the river. Are composed of red and gray sandstone. Every now and then a creek, gulch or valley comes in from the top of the cliff. One looks on miles and miles of naked rocks or billows rather, of orange-colored sandstone, bare of vegetation and little or no loose sand. The name of the cañon is called from the mounds that cover the top of it. We have run several shallow, bad rapids. In one of them we had to jump out and hold on to the boat as she went scraping over the stones. The boats are topheavy, 5 men to the boat. Now and then we caught sight of the higher cliffs standing back from the lower cliffs near the river, but nothing but naked rocks, rounded like thousands of bee-hives. At 10:00 we saw an old ruin of a Shenemo house standing on a point of a ledge of rock 60 or 75 feet in height. We had to drop down the river ¼ of mile before we could land on account of sand bars. We then scrambled back through bushes and mud and over rocks to the ruin. Found 3 walls standing but the fourth and the roof had caved in. Found a small ruin near it and several pictures rudely carved on the flat rocks. The walls were about 15 feet high and 12 feet long, [the building] was well put up and plastered with clay. Fred copied the pictures while the rest of us hunted for arrowheads. Bish went back to the boat and told Andy to get dinner. As we were returning along the ledge we discovered another ruin and a pile of picture writings and of course stopped to examine them and Fred copied them. Steward and I hunted around after more arrowheads and found several. Soon we heard the cry of "soup" and returned to a good dinner. We are camped on a

The lower story of this tower still stands, although one wall has partially collapsed. Dellenbaugh's sketch on page XX of A Canyon Voyage was copied from petroglyphs near this ruin, which stands at the mouth of White Canyon. In 1947 an inscription made by Dellenbaugh in 1872 was discovered on a large boulder near this ruin. Opposite is the mouth of Trachyte Creek, leading to the Henry Mountains. This place, later called Dandy Crossing, was the principal Indian crossing of the Colorado between Greenriver, Utah, and the Crossing of the Fathers. Cass Hite, eccentric prospector and hermit, lived here from 1883 to 1898, then moved downstream to Tickaboo Creek where he died in 1912. During the Glen Canyon gold rush of 1898 a post-office called Hite was established in Hite's old cabin, mail being brought from Hanksville on horseback.
littl rocky beach. While eating dinner saw an eagle gobble up a couple of small birds. Started on down at 2:00 p.m. running a rapid now and then, but as we are through Cataract Cañon kept no track of the number, though now and then we came to a bad one and hard pulling and exciting times are all the rage. We are pulling with a will now for rations are short and we are very saving of everything except flour. We have plenty of bread but only a little piece of sowbelly, about 2 or 4 inches square at a meal. Do not use any sugar except in coffee, &c. When I started from Green River City I thought I never could go sowbelly—now it is a dainty tidbit. We aren't starving by any means now, nowhere near it, for there is always plenty of bread left after a meal and instead of butter we use gravy and codfish. The scenery is grand but it takes a better man than I am to describe it. The river is winding with gulches and ravines coming down to it and is heavily fringed with willows and brush. At 4:30 we came to some more ruins on the left bank and concluded to camp for the night. Have made 17½ miles. We had to climb a steep bank with our things and wood. As we were coming down the river Andy shot a duck. After collecting wood for Andy and spreading our blankets we went over to the ruins some ¼ of a mile away on a bluff. The walls were all caved in on the 3 buildings, one of which was one of their kivas or temples. 'Twas circular in shape. We dug around it in hopes of finding some relics but 'twas no go. Found a few arrowheads and any quantity of chips and broken pottery. We had a very good supper and a pleasant chat and smoke around a cheerful camp-fire, the Maj. telling us the history of the Shenemos. At 9:00 all turned in, feeling tired.

Oct. 3rd. Started out at 8:00 passing through rather tame scenery of Mound Cañon. The current is almost dead, though now and then a rapid helps us along faster. The river is very winding and pulling is tough. The Prof. spelled me for an hour while I steered the boat. The duck that Andy killed yesterday we had for breakfast this morning in the shape of soup. 'Twas gay. We camped for dinner on the left shore on a small rocky beach for dinner at 12:00. The Maj. and Prof. climbed the low bluff back of camp while the rest of us were waiting dinner. They returned while we were eating; nothing to be seen but barren rocks with now and then some distant butte, solitary and alone, except a range of unknown volcanic mountains to the right some 25 miles away. Started out again at 2:15, keeping

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This group of ruins is located at the mouth of Red Canyon, where Bert Loper, famous river boatman, once lived. It has never been excavated.

This isolated group of five peaks was later named the Henry Mountains. Traces of gold have been found but no profitable mine has ever been developed in the Henrys.
both pair of oars in play all the time. Occasionally we would sail along some high wall 600 or 800 feet high, now on one side then on the other side of the river, while on the opposite side was nothing but the same low broken bluffs. Ran one or two bad rapids. We struck some rocks and all hands jumped out to save the boat and wade with her down part of the rapid. We landed for camp on the left bank at 5:30 p.m. 'Tis not a sand bank we are camped—½ of a mile on the bank proper. Have made 27 miles. Spent the evening pleasantly around the fire. Andy is cooking beans for breakfast in the morning.

Oct. 4th. While we were down at the river washing the Maj. said jokingly that we needed some kicking portages—that we were too “high lifed,” &c. The thermometers then stood at 41 degrees. Broke up camp at about 8:00. Cañon is growing narrower, the walls steeper and higher, at times 800 feet high but entirely destitute of vegetation and rounded at the top in the same manner as before. About ½ after 9 we struck a reef running the whole width of the river. All jumped out and by hard work pushing, lifting and hauling, got the boats over. The bed of the river now is sandstone cut up into cracks, the river very shallow, only about a foot deep and the boats go scraping over the rocky bottom while each crew wades by their sides. The bottom is rounded in the same manner as the top of cañon walls are and we have hard work at times to get the boats over the mounds, and again we would get the boats in a crack where they would float nicely while we would be walking by their sides, the water barely over our shoes, and then all at once we would go down up to our waists. We went first one side of the river and then to the other to deeper water, but it was no go, and then to cap all, a little nasty shallow rapid came up before and in trying to run it the “Emma” broke an oar and the “Nell” an oar and had a bad hole stove through her through which the water came in fast, keeping one of us constantly bailing out. The stretch was about a mile long and we worked and tugged away at it till noon and passed beyond the shoal, landed on the right bank for dinner and repairs. Unloaded the “Nell,” hauled her up on the sand and soon had the hole fixed up with a false rib, &c. There only being one spare oar we had to splice one broken one belonging to the “Nell” so that now the bow oars that I pull are bungling. I took the barometrical observations for Capt. at 2:00 p.m., and at 2:30 we were again afloat on the

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*Lake Canyon rapid. On the upper end of the bar opposite (right bank) is an indistinct French inscription dated 1837. Nearby are the figures “1642,” believed to have been cut by a prospector in 1896 as a hoax. Trappers could have reached this bar on horseback.*
Colorado. The Maj. little thought this morning what kicking portages we would have today. The river bends and twists in a tortuous manner, the walls perpendicular on both sides and are of an orange-colored sandstone with broad bands of black running down them where they have been stained by the rain and of course are beautiful. We ran a few more rapids and landed for the night on the right bank at 5:30 p.m., built a fire on the rocks but spread our blankets on the bank above. Back of camp is a lovely alcove; first is a low wall with here and there a narrow entrance inside. Between the first wall and the canyon wall is a little park with trees and flowers growing within. We will find them [all] along now through this canyon.

Oct. 5th. Broke up camp at 8:00 and started out on our winding way. We made 23 miles yesterday. The scenery is monotonous. We pass a few islands here and there, now and then running a rapid. With the exceptions of the rapids, the current is only about a mile or even less an hour. My hands are getting sore and hard from constant rowing, though the Prof. spells me now and then. In an hour and ½ we came to a small stream coming in on the right. The Maj. and Prof. tried to climb out but failed, so we started on. The banks are heavily fringed with willow and small brush, green grass, &c. Forms a pretty contrast with the buff sandstone walls. Now and then we come to banks of the most beautiful yellow-colored sand I ever saw. We can now see Mount Seneca Howland, 5000 or 6000 feet high. The Maj. named it after one of his previous party down here, and who was one of the 3 killed by the Indians. 'Tis a splendid mountain, sharp ridged, heavily wooded and standing alone. The Maj. wanted to stop a day and climb it, but some of the boys feeling anxious about rations he concluded not to. On going down farther he and Prof. climbed out while we dropped down ½ or ¾ of a mile farther for dinner. I have forgotten to say that at about 11:00 a.m. we passed the River San Juan, [thus coming] out of Mound Canyon and into Monument Canyon, the river being the division between the two canyons. It

*Hole-in-the-Rock, where in 1879 a Mormon wagon train cut a road down through a narrow gorge, crossed the Colorado and continued east to found the settlement of Bluff on the San Juan River.

*This was the mouth of the Escalante River, half hidden, unnoticed on the first voyage and still considered too insignificant to rate a name. Mormon explorers may have found its upper waters as early as 1866. Jacob Hamblin had reached its source in the fall of 1870 or spring of 1871. But its true nature was not discovered until 1872 when Thompson's party found its upper waters while searching for the Dirty Devil. It was therefore the last river to be discovered in the United States.

*Mt. Seneca Howland, named for one of Powell's men who left the 1869 expedition at Separation Rapids, is now called Navajo Mountain. Rainbow Bridge stands at its base.
is 5 or 6 feet wide and 2 or 3 inches deep." It is spread over a good deal of territory but its bed is quicksand. It drains the San Juan Mountains on the western slope of the Rockies. "Tis a dirty stream. We camped for dinner a couple of miles from its mouth. The Maj. told us that by going back to the wall of the cañon we would find what he called "Music Temple." Of course we went for it. It is a gulch cut out of the wall by water; it is arched and extends into the wall while its walls tower up for 1000 or 1200 feet. One can only see a narrow, very narrow strip of blue sky above. The entrance is winding, and turning a corner one beholds the grand amphitheatre. "Tis delightfully cool, the walls are vaulted; at the farther end is a basin of clear cool water holding thousands of barrels of water. Just in front of it is a pile of rocks; the floor is of gravel. At the entrance are 4 tall, slim cottonwood trees inside of the vaulted roof. The Temple is 320 feet wide by 520 feet long and will hold 40,000 or 50,000 people. The previous party camped here for a day or so. We found "O. G. Howland, 1869" carved on the wall. He was afterwards killed by the Indians, and a brother of Seneca H. We placed our names by the side of it and I carved mine and Morris' and one or 2 others with state and date." In the back part of the cave and to one side is a narrow winding gorge some 20 feet from the ground, where the water comes tumbling down in wet weather from the top of the cañon. Along the side of the wall we found some ferns, mosses, &c., and near the entrance mountain oak. I gathered some to send home to the folks. On the bank of the river we found the barrel cactus. It often grows to the height of 5 or 6 feet and is the exact shape of a barrel. Just as we were finishing our dinner the Maj. and Prof. called to us across the river. Jack and Steward went after them in a boat. After they had eaten they also visited the Temple. We finally started out at 3:00 p.m. down Monument Cañon. The walls are higher, about 1500 feet on the average and nearly vertical, with very narrow lateral cañons coming in on either side, through which we can see some lonely buttes or monuments (hence the name) rising up from the top of the cañon 500, 600, or 800 feet high, or again when we would come to a straight

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*The San Juan River was at a very low stage; it has been known to go entirely dry, although at times it carries almost as much water and more silt than the Colorado. Because of its low stage Powell's party did not encounter the curious "sand waves" which sometimes overturn boats in this section.

*In 1938 the Stone expedition stopped at Music Temple to examine these old inscriptions. Those of the Howland brothers and William H. Dunn, made in 1869, were very indistinct. Those cut this year and in 1872 were: F. S. Dellenbaugh, W. C. Powell, F. M. Bishop, J. K. Hillers, J. F. Steward, W. D. Johnson. A tobacco can left by Dr. Frazier contains a list of visitors since 1933.
Inscriptions at Music Temple made in 1871 by members of the Second Powell Expedition.
stretches of river; looking down could see the vertical undulating cañon walls and then back or beyond rather, see some tall butte looking like some old deserted ruin with peaks and turrets and all of naked rock with no vegetation save perhaps the hardy sagebrush. 'Tis a grand cañon. We ran some bad rapids, some we had to jump out and catch hold of the boat and wade with it a short distance and then get in and ply our oars lively, as the current went booming against the cliff. Once while pulling away from the cliff we ran broadside to a rock and came very near tipping over, but jumping out waist deep, soon got boat off. We saw a wildcat running along a talus of rock under the cliff, and at 5:40 landed on the left bank for the night, cutting some willows, spreading our blankets and then round the fire we huddled to dry out. We have supper at 7:00 p.m. by camp-fire light as usual. I gave the Maj., Jones and Andy a sack each of tobacco, they being out. Then our usual chat and smoking cigarettes till one by one they drop off to snore, Bish and myself being last on account of the 9 o'clock observation.

Oct. 6th. Yesterday made 22½ miles. Broke up camp at 8:10; pull out with a will for the Crossing of the Fathers, our mail and rations just 20 miles away. At each new turn something new presented itself to our admiring gaze but we did not care much about scenery now; it was mail we were pulling for. Of course we ran a few rapids but did not have to get out. When we had gone about 6 or 7 miles all at once we saw some tracks on the sand. We landed and saw that they belonged to white men with shod horses and on going up the bank found that a fire had been over it a short time before. It had probably spread from some camp-fire. We at once knew that our pack train had been up there, very likely to meet us and that we might come across them at any moment. We found any quantity of roasted acorns around the fire. We started out again in 15 or 20 minutes and by 12 M. we had made 13½ miles. We are camped on right bank on a rocky ledge with plenty of driftwood, &c. 'Tis the best camp we have had for a long time, it being free from sand and about 15 feet above the river. We are on the commencement of another "bow-knot" thusly [diagram] and 7 miles from the Crossing. As the rocks became heated by the fire they began to mutter, and as we were sitting or standing around, some reading, others writing and some waiting "grub struck," it went c-r-a-c-k and each one of us looked around to see who were still living; but finding (on counting up) that all were still kicking, the excitement gradually subsided. While Andy was getting dinner Jack caught a large fish that was immediately dressed and cooked. Had a glorious dinner. Started out at 2:15, pulling a good steady stroke, when suddenly, when about a mile from
we heard a gun go off close at hand and on looking up on the bank beheld 3 white men. We at once landed and found that it was our train at last and with mail and rations. We of course went heavy for our letters. I was bitterly disappointed at only receiving 2 letters, one from Morris, the other from Joe Kochly. I had been looking eagerly for the past 2 weeks for at least half a dozen letters from home, at the Crossing. It only makes 2 since leaving Uintah in July last. Got about a dozen papers from Naperville. One of them had one of my letters in to the Chicago Tribune. Was complimented by the Maj., Prof., and the rest on it. I am very glad that Morris received $25.00 from Tribune. Hope it will help him a little. Capt. Dodge [Dodds] with a couple of other men are in charge of the train. The Navajo Indians, 116 strong, have been over among the Mormons "trading" (?), that is, a "Red" would take a horse and give Mr. Mormon a blanket for it and then make him throw in vegetables, melons, fruit, &c. to boot. After getting all they wished, came back, crossing the river at this point 2 or 3 days ago, and now they have gone to Fort Defiance to receive their present from the government. Jacob Hamblin with a party of Mormons has gone to the fort and is trying to get a settlement with them there, so he left our pack train in charge of Capt. Dodge. They have been waiting for us ever since the 22nd of September; thought we were to be here on the 25th of September. They had been up the river in search of us, thought that we were lost, &c. and had concluded that if we were not here by the 9th that they would leave, so we came just in time. Our rations are flour, dried beef or jerky, bacon, sugar, tea, coffee, rice, dried peaches—nice ones raised out here in Utah, best I ever saw; also some figs raised here. They brought us in green apples, but packing them spoilt them and they had eaten the last in a dumpling for dinner today. The two fellows with the Capt. do not belong to the train but are merely staying to keep the Capt. company. They are miners and are seeking for gold in the canions of the Colorado, and therefore wanted to see the Maj. about it and the river. A little creek comes in here of pure

Camp was made at the mouth of a short stream now called Kane Creek, about a mile above the actual crossing, which was reached by descending the narrow canyon of Padre Creek. Early U. S. Geological Survey maps show this correctly; but through some mischance maps made since 1922 erroneously show the crossing to be at Kane Creek, an error copied by road, county and state maps.

Having failed to find the Dirty Devil River, Hamblin had been ordered to meet the expedition at the Crossing of the Fathers, where he had crossed several times on his way to the Hopi villages. Being asked to settle some Indian trouble he turned the supply train over to Capt. Pardyn Dodds. Two prospectors, George Riley and John Bonnemort, accompanied Dodds, hoping to learn of rich gold deposits in rock formations examined by Powell's men. They were disappointed but did find some fine placer gold in the river sands.
cold water and one of them showed us how to "prospect" by 
getting a few grains of gold out of the sand by washing. Said 
that he could get $4 or $5 per day here, but that would not pay. 
Claims that somewhere among the rapids he can scoop up gold 
by the hat full and is bound to try it. They talk of going up to 
Cataract Cañon. There are 7 horses in the train. The Maj. and 
Jack will leave us here to go to Salt Lake City. The rest of us 
go to the "Pahria" [Paria] 45 miles below here. We will be 
here about a week or 10 days and will be about 2 weeks going 
the 45 miles. Will there meet the pack train and then go to 
Kanab, (slowly working up the country as we go) our winter 
quarters. I sometimes get discouraged and utterly heart sick and 
wish I were at home. I do not think that I will see home before 
the 1st of September next. Maj. says that we will be 3 months 
going down Grand Cañon and another month in going up the 
Utah Valley to Salt Lake City. Of course the balance of the 
day we spent in looking over letters, papers, &c. Had a smash­
ing good supper. Have received photographic material and so 
picture-making will flourish once more. Ah me! I wish the trip 
was over with. Am feeling rather blue. Only one letter from 
home. Turned in at 9 o'clock.

Oct. 7th. After breakfast Beaman and I pitched our tent 
and cut some tall willows to place around it, to make it cooler. 
Opened the photographic boxes and commenced biz. First will 
print a few pictures. Have been silvering paper during the fore­
noon and in the afternoon printed some. Wrote my diary and 
reread my letters from Morris and Joe. Joe writes a good letter. 
Maj. told me privately "to keep on with my letter writing, that 
I must keep that going." Of course that pleased me. Told him 
that Morris remodeled my letters before they went to the 
Tribune. I gave him Morris' letter to read. Said "he was very glad I 
showed it to him, that it was very interesting." He presented us 
with a pair of breeches and shoes, there being 2 or 3 pair each 
extra. Gave me a pair each more—he is very kind. The Capt. 
is hurrying to get off his map, Steward his fossils, Fred his 
sketches and Beaman a few prints, by the Maj., so we are all 
very busy. We spread our blankets under the tent tonight for 
it has commenced to rain. It seems cozy to listen to the patter 
of the rain on the tent.

Oct. 8th. After breakfast this morning I silvered some paper 
for printing and then copied the barometrical record for over a 
month back. It took me till 3 p.m. to finish it. Have had no time 
to write letters or anything else. The Maj. leaves tomorrow. 
After dinner helped Beaman with his pictures; will send 2 or 3 
home. I am now writing my diary. Ah me! I would give anything 
to spend this Sabbath afternoon at home. Well, I see that I have 
about used up my diary and will send it out to Salt Lake and
home by the Maj. tomorrow morning. On looking over its pages find that they are not very tidy and greatly doubt whether it will come up to Morris' ideal of a diary. 'Tis poorly written and ill spelled I know. I have written it here and there by snatches in the boat and when ashore, while drying out after long hard portages, and waiting for dinner, and by the flickering firelight, sometimes when the boys are talking and laughing around me and sometimes by myself: when I feel blue and when feeling gay. Sometimes would be a week or 10 days behind and again kept up to the day. Often have felt like throwing diary and pencil into the river; on hearing the others read theirs, would feel ashamed to think that I have such a poor one. I have this consolation, however, that in years to come it may prove a pleasure to me on looking over its pages. It is my first diary. I have noted the humdrum of our camp, the incidents and adventures, &c., but have given little, very little description of the beautiful grand scenery we have passed through. It would take a Goethe to describe it. The views that I send home may give an idea, though one could spend months in taking photographs in any one cañon we have come through. I should not wonder but that some of the party would return home this winter. Steward received bad news from home stating that his wife was very sick; was not expected to live. He is worried. Beaman is getting sick of the whole thing. Andy thinks that no one has anything to do but him. In fact each one of the party thinks that their part the hardest of all, &c., &c., &c. Bet your pile I won't back out till the Maj. does. The winter will pass away quickly I hope. The novelty of riding horseback will be gay—want to turn out an accomplished horseman. Will see a very large extent of country and will meet and be with different tribes of Indians and will pick up a lot of curiosities, trinkets, &c. for Frank and as mementoes of the trip. Kanab is 80 miles from the Colorado River. We will cache our boats at the mouth of the Pahria. The Maj. told us not to say where we cached the "Canonita"; if asked about it to say we left it above the San Juan; fears that it might be stolen or destroyed by the Indians if they should get hold of it. I am about done. I am sitting just outside of our tent as the sun is sinking behind a tall rocky butte to the right. Before me are sandstone cliffs 600 or 700 feet high. To the left the river goes winding in among buttes that stand a little back from the top of the walls. Andy is getting supper. Bish is cutting the Maj.'s hair. I feel strangely lonely this afternoon as I always do on Sundays. I will be so glad when the trip is over with. "Every cloud has a silver lining." The sun has just sunk behind the butte in a bank of clouds and sure enough they have a silver lining. I hope they are well and happy at home. Monument Cañon ends at the mouth of the Pahria.
Well my diary, old fellow, good-bye. We part now. I hope that you will have a prosperous, safe journey to your home at Naperville, 1,500 miles away. Tell the loved ones there that I think of them every day. Wish that I were with them, that the year that intervenes will soon roll around. I am, with profound respect, very truly your most obedient

W. Clement Powell.

Write me as soon as you receive this so that I will know whether it has gone safely. Will feel anxious about it.

W. C. Powell

Oct. 9th, 1871. Rose at 6:30. Weather very cold. Sharp frost last night and ice this morning; washing a duty instead of a pleasure. The Maj. has concluded not to start till tomorrow morning, giving the party a chance to write letters. Yesterday finished Volume No. 1 of my diary and wrote Morris a short letter. In the evening had a chat with Riley, the miner, about prospecting for gold and about the river we had passed through. Claims that he can get 4 or 5 dollars a day right here at the creek that runs just below camp but it would not pay, but that somewhere along the Colorado one can scoop out gold by the hat full, and is bound to find said place, &c. He and Capt. Dodge intend building a boat at Uintah this winter and see what they can find in Lodore, Whirlpool and Craggy canyons. Do not think they will accomplish much. Riley wants to go with us down Grand Cañon next spring. The Maj. kindly gave me an extra pair each of shoes and overalls. This morning I silvered a couple of dozen of printing papers for pictures and helped Beaman to print, &c. Finished writing to Morris and one to Joe Kochly. Cut a lot of willows to put around and in our tent to make it pleasanter. Bish made a box to put in the negatives to be sent out to Kanab. Carried up a lot of wood for a fire to write by. Commenced a letter to Geo. Van Nest, but being tired and sleepy did not finish it and went to bed.

The second volume of the diary, which here begins, has a title page as follows:

Book II

W. C. Powell

Naperville, DuPage Co., Illinois

“Assistant Photographer”

U. S. Green and Colorado Rivers Exploring Expedition

Maj. J. W. Powell, Commanding.
Oct. 10th. Cold this morning. Beaman gave us all a number of pictures. Sent mine home, one to Dr. Chew. Did not have time to finish Van Nest's letter. Fred and I went out to help Capt. Dodge to bring up the horses; found them all but 4. Returned for breakfast. Gave Jack my diary, told him to take special care of it, told him what it was and that I would not have it lost for anything. Said he would do his best. Sealed my letters and bade Maj. and Jack good-bye. Sent out for a pair of blankets, a package of stamped envelopes, and thread. Am sorry that I did not send for an overcoat; I will sadly need one this winter I fear. Dodge told the Maj. to pack up and start as soon as he was ready with the train and that he would follow as soon as he found the other horses. So he, Fred and myself started out to hunt them, he going one way and me going another. Our way led over desolation, nothing but rock and sand, up and down, up and down. It was just like looking over a plain with here and there a distant butte. We finally struck them (the buttes) winding in and around them but saw nothing of the horses. We found a spring up a gulch and quenched our thirst. We looked in every direction with Fred's glass but could not see a living thing, and set out for camp. Just as we got to the cliff overhanging camp, saw the Maj. and party just coming up it with the train. It was pretty steep and it was a sight to see the animals go up it. One pack horse slipped down the whole thing; they had to unload him, carry the load to the top, then urge the horse up, and then reload him. Finally as they were disappearing around a mound of rock the Maj., Riley, John Bone- 

Oct. 11th. Steward is sick abed this morning. Spent a bad night. After breakfast we packed up our things and a couple of days' rations, unloaded the "Dean" and at 9:00 a.m. started up the river, all of us taking turns in rowing. Current not very strong except now and then. About a couple of miles up we stopped and by doing some tali climbing with the help of the rope found ourselves on top of the low cliff, but saw nothing of interest. Beaman and Prof. went one way and Bish and I another. Had a very pleasant time. Found pieces of arrowheads and some fine
specimens of chips, &c. Said that he thought that Steward would leave on account of his family's health. We returned in about an hour's time and again pushed on up the river. Had some very hard work, 2 rowing while Prof. and I towed her up along the bank, and finally at 12:45 reached the foot of a rapid and the end of our journey, thank fortune. Are about 5 miles from camp and about 1 mile below our dinner camp on the 6th. We landed on the left-hand bank. Bish and I got dinner, a good one you bet. After dinner Prof., Bish and Beaman started for a climb, leaving me to watch camp, wash dishes, &c. Seeing a crow on a distant rock, shot at him; he of course flew off with a "caw." Beaman soon returned, did not care much about climbing out. After getting things shipshape around camp I put on some peaches to stew, then while watching them I reread letters from home, "Clarions," &c., and toward evening gathered a lot of wood for supper and a fire at night, put the coffee kettle on to boil, &c. Have got a good stew on peaches. Beaman fixed the beds for the party in the meanwhile. At about 5½ Bish and Prof. came in. Bish and I got supper. Prof. said they had found an ancient Moquis (Aztec) stairway, or steps rather, cut into the solid rock where they climbed up and down the cliff or cañon wall and also found picture writings, &c., cut in the walls. After supper Bish told us about Indian massacres, just to keep our courage up. We did, you bet, for we slept with our guns by our sides and dreamt of the Navajos. The night was very cold and windy.

Oct. 12th. We got up pretty early this morning for we were cold. Soon we had a bright fire blazing and Bish and I commenced getting breakfast. Bish made slap-jacks while I fried meat; had a gay meal. Prof. and Bish went out for a more extended climb. Beaman gathered up the bedding while I washed the dishes, &c., around camp. We then packed the boat and dropped down 1½ a mile around the bend to take a picture looking down the river. I soon had the dark tent up and Beaman took a couple of fine views. We then repacked and waited and read for the return of Prof. and Bish. At about 11½ we saw them coming and rowed up the river to meet them. We concluded to have dinner there and then pull for camp. We soon had a good dinner dispatched and at 2:00 started out. It had now begun to blow a perfect gale from down the cañon and soon the waves were rolling. Pulling against a head wind is no fun. The air was chilly and the wind blew the cold water in a shower of drops over us, but riding the waves was an enjoyment. We reached camp at 3:30, found Steward decidedly worse and in much pain, but everything else as usual. Cut a lot of willows for a bed. Cleaned my gun out thoroughly. Prof. gave Capt. Dodge his gun for services rendered, and Bish traded his Spencer
to him for a revolver. That reduces the number of guns in the party to 6—4 Winchesters and 2 Henrys, the former 17 shooters, the latter 16 shooters. We gathered a lot of wood for an evening fire. I do not feel very well. After supper spent the time reading and talking with the rest of the boys around a cheerful campfire.

Oct. 13th. Last evening as I was going to bed a few drops of rain came pattering down on the tent, but it was too cold to rain and soon stopped. This morning found ice all around camp wherever a little water was standing. After breakfast oiled my gun to keep it from rusting. Prof. and Beaman went back on the cliffs to find some views. We will start out this afternoon to take them. Steward is no better—is in a good deal of pain; tried to sit up but had to give it up and go back to bed again in a few minutes. Rearranged my sacks [sic] &c., and filled my gun with cartridges, and since I have been writing my diary from the beginning. 'Tis a task to keep a diary. Prof. and Bish climbed out, returned at 12 M. Could not reach the top. Beaman packed a box with some extra chemicals and he and I buried it. Dug a hole under a cliff, put the box in it, then covered it over with ground. After dinner Prof. and Bish started out again. Have taken hammer and chisel to cut steps with to climb up. Beaman, Fred and I started out up the creek's bed to take views. 'Tis a cañon on a small scale, the walls are very narrow and overhang—are arching in fact. The sun never enters. At the head a small thread-like stream falls down about 50 feet, forms a pool and then flows on. Can only see a small strip of sky at the top, 100 feet high. We took a couple of fine views. Fred amused himself sinking in the quicksand that forms the bottom of the creek. We packed up and left Fred gathering cat-tails to make him a pillow. Went up on top of the cliffs and took a couple of fine negatives of the surrounding country and then returned to camp at 4:00 p.m. Read till supper time. Prof. and Bish came in at 5:00; had had a hard climb. Saw Mt. Seneca Howland in a snow storm, in fact Bish said that the clouds were resting on her top. It has been a dull, cheerless, drear November day, bleak and desolate. Just the kind of day to make one think of home and its enjoyments. We gathered around the fire, roasting one side and freezing the other, talking, joking and smoking till one by one we drop off to our blankets. Bish and Andy and I are left alone by the blazing fire. I help Bish with his 9:00 observation and then he drops off. Jones and Andy had a row and have separated and sleep alone. I feel sorry for Andy—he has only one pair of blankets for these cold nights.

Oct. 14th. Ice ½ an inch thick this morning, and after us fellows did get from out our blankets did not stop long before
we were around the breakfast fire. Steward is about the same; spent rather a bad night. After breakfast Prof. and Bish started out for another climb, will be back by noon. The rest of us are reading the papers, &c. Washed my shirt and put on a clean one, mended my vest, &c. About 11:00 a.m. we heard a war-whoop and on looking up saw (what afterwards proved to be) a couple of Navajo Indians. We beckoned them down and we watched them through a glass. They were soon in camp—an old man 60 or 70 years old and a boy not more than 14 or 15. Jones stepped forth in all dignity. The old man went up to him and embraced by laying his cheek against Jones's. Methought I saw a strong family resemblance between them. We took them into the wickiup where Steward was lying, smoked the pipe of peace, or I should say smoked a cigarette. They had some gay cigarette wrappers made out of dried corn husks. Each was armed with bow and arrows, the boy's however not amounting to much, but the old man's was one that had done and would do service either good or bad. Arrows were pointed with keenly sharpened iron heads and were gaily decorated with feathers. Also had a wicked looking knife; had a fine quiver made from marten furs; both had on splendid moccasins and leggins of tanned deer skin and painted gaily; were fastened at the knees by handsome red garters; had on white knee breeches fastened by a belt and white canvas shirt. Each had on a leather bracelet; the old man wore an old hat, the boy a turban. Gave the boy an old hat that Steward had thrown away; was tickled. They were both fine looking Indians, intelligent and kindly. The man must have been a noble looking fellow when younger. He took out 2 or 3 letters and gave them to us. They stated that he was a chief among the Navajos, was friendly to the whites and that he and his band were going to the Mormons to trade, &c. Signed by Hamblin and the commander at Fort Defiance; also said that his name was "Agua Grande," meaning "great water," and that the boy was his son, &c. He could not speak a word of English. Finally told us by signs that there were 7 more back on the cliff with "caballos" (horses). Sent his son to call them in. We heard him whooping and soon returned. Dinner being ready we, Indians and all, pitched in. At its conclusion the chief said "wano! wano! wano!" (good! good! good!) and seemed perfectly satisfied with his treatment. As they were about leaving Prof. and Bish came in, and they had an embracing time of it, &c. Prof. wrote a letter to Fred Hamblin to meet us at the Pahria on the 25th inst. instead of the 1st of November as was the calculation. The change was made on account of Steward's sickness. In the course of their (the Indians') wanderings it may reach Kanab. Shortly afterwards we saw the other 7 In-
di ans on horseback (mustangs) come riding down the hill. Among them was an ugly looking squaw. They dismounted in front of the wickiup, unloaded, &c. Had several fine blankets of their own manufacture; 2 or 3 of them were old men, the rest young, all dressed nearly as their chief, though very dirty. One of them wore a moustache and one comical looking fellow had a couple of dilapidated looking feathers in his hat. The old chief gathered them around him. In the scene that ensued did not take a hand but it reminded me more of the cackle of a lot of Dutch geese than anything else; it was a gabble, gabble, gabble. We gave them some dinner. The men sat on their haunches in a circle while the squaw waited on them. The Prof. said that we would pack up and drop down the river 4 or 5 miles where there was more wood. It took us about an hour to pack up everything and get the boats ready. I was transferred to the "Dean." The Indians sat on the bank in a row looking at us, gravely talking among themselves in their jargon, making comments on our water ponies, I suppose. When we were ready to start we shook hands with them. I told the young fellow to give my love to all the folks. He answered "Oui." Shoving off into the stream we waved hats and bade them once more farewell. They answered with a whoop. We soon lost sight of them around the bend. In 5 or 10 minutes we passed the "Crossing of the Fathers," the only known ford.

In 1776 Fathers Escalante and Dominguez from Santa Fe, entered the present State of Utah, crossing Green River near Jensen. Passing west through the Uinta Basin, they reached Utah Lake, then turned south, intending to continue to Monterey in California. When northwest of Parowan, they decided to return to Santa Fe and after many difficulties reached the Colorado at what is now Lees Ferry, at the mouth of the Paria. Unable to cross, they turned upstream seeking a ford long used by Indians. It was found at the mouth of what is now known as Padre Creek, where Julius F. Stone's 1938 expedition placed a marker. Steps cut in the wall of Padre Canyon by Escalante himself were discovered by Dr. R. G. Frazier in 1940. Trading expeditions from New Mexico later cut a long series of steps in the north wall of Padre Canyon, which were seen and used by Jacob Hamblin, who had crossed here four times before 1869. The ford, running diagonally downstream, was once marked by piles of stones, as shown by a sketch in Wheeler's Report (Report upon United States Geographical Surveys West of the One Hundredth Meridian, in charge of Capt. Geo. M. Wheeler ... Washington, 1889, vol. 1, Geographical Report, p. 53). Dr. Frazier and I found no trace of such markers at low water in 1939. Knowledge of the crossing and the name applied to it seems to have persisted from common knowledge in the Southwest rather than from any documentary cause. "El Vado de los Padres" was perhaps first represented on a government map in 1861, the map accompanying Capt. John N. Macomb's account of his expedition in 1859 from Santa Fe to the vicinity of the junction of the Grand and Green rivers, printed in the "Annual Report of the Chief of Topographical Engineers" for 1860 and 1861. In a letter to me, Dellenbaugh said he believed Powell was informed of this crossing by Hamblin, but Powell knew of it at least by name on his first expedition of 1869, as the diaries of that expedition demonstrate, and at
on the Colorado River. A stand bank and a riffle lie midway in the stream. The trail on the left bank winds down from the cliffs. On the right bank it enters a narrow cañon and disappears from view. The current is rather swift here; walls are from 300 to 600 feet high, perpendicular on one side and sloping back on the other, with now and then a butte shooting from the top. Dropped down about 3 miles and landed at 5:15 for the night on the left bank. Plenty of wood, plenty of willows and plenty of sand. Soon a fire is built, boats unpacked and willows cut, beds made and supper ready, and of course that is soon demolished. Then we gather a lot of wood, build a good fire, around which we group, and read, and smoke. Getting tired of that we talk about our late visitors, the Indians. That knotty question solved, we all turn in at 9:00 p.m.

Oct. 15th. Sunday morning again. Ah me! I wish I were at home today. 'Tis one of those lovely golden October days that Winthrop describes so finely. I wonder if they are thinking of me so far away. Spent the morning in reading around the fire. We are camped on our usual sandbank underneath a tall cliff just below the bend that hides the Crossing of the Fathers. Back of us is the bank proper with any amount of driftwood. Had beef soup for dinner. After dinner Prof. asked me if I could take some views looking up the river. Told him that I could; so getting Fred to help me with the boxes put them up and took 4 fine stéros looking up the river. Prof. and Jones crossed the river and climbed out. Steward is not any better and says he intends going home as soon as we reach Kanab. He has not much "vim"; is down in the mouth, cross and peevish. Had beef soup for supper, 'tis good. Prof. thought that I had done finely on pictures. Built a cheerful fire around which we read, wrote and talked. Bish and I sat up till 10 o'clock writing up our diaries.

Oct. 16th. After breakfast this morning I took a view looking up the river. By the time we had the boats packed 'twas 9:30 a.m. Shoved off and once more commenced our winding way. The walls on one side are vertical from the water and are about 400 or 500 feet in height. On the right bank they are low, more sloping and rounded, cut at the top by gullies. Are composed of dark or old red sandstone beautifully colored by broad bands of black where the water has poured over them that time he apparently had not met Hamblin. The source of Hamblin's own knowledge of the Crossing does not appear. He may have learned of it from the Indians without at first knowing the name applied to it in the Spanish Southwest.—C.K.

*So far as known, Bishop did not keep a diary between September 17 and November 18. If kept on loose sheets, these may have been lost before being recopied in his journal.*
from the top. We ran several rapids without trouble. The scenery is rather tame compared with Cataract Cañon, though to other eyes it would seem grand, no doubt. The river winds this way and that; sometimes we pass a pretty little island covered with verdure that now is putting on its autumnal dress and reminds us that the year is fast passing away; and again an island or rather sandbank covered with pebbles that at high water would be covered and would form a rapid. Landed on right-hand bank at 12:10 for dinner. We gather a little wood together, barely enough to make fire for dinner with, but all there was. Found a beaver house and dam. The old beavers swam away however before we could get a shot at them. Steward is about the same, grumbling at everything and everybody. Helped Andy wipe the dishes. Pulled out again at 2:15 p.m. Ran a rapid or two, nothing of importance. No pictures worth taking—no nothing. We landed at 4:00 p.m. at the entrance to a gulch on the left bank for the night. Had to cut our way (after climbing up a steep bank) through the willows to camp among the sagebrush beyond. Instead of sand we had grass, for a wonder. Prof. climbed out while we were getting supper. Beaman, Jones, Fred and I had a sweet time collecting wood from out of the willows. We finally gathered a lot of it however; cut willows for our beds. The nights are very cool to say the least. Prof. returned at dark. Will stay here part of tomorrow. Toasted bread for supper. We have a very pleasant camp, sheltered from the wind by sagebrush and willows. Turned in at 9 o’clock.

Oct. 17th. This morning after breakfast the Prof., Bish and Fred climbed out up the gulch and I set up the dark tent on the main cabin of the "Dean" and proceeded to get things ready for some views looking up the river. Had trouble unscrewing the bath holder; had to oil the screw and I took a couple of fine views looking up the river: boats and Jones made an interesting foreground, but unfortunately in trying to intensify them (the views) the whole film came off, much to my sorrow, for they were the finest pictures I have yet taken. The light not being good at this time, I packed up the boxes and repacked the boat. By

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More sympathetically Clem writes in his letter of November 15 (Chicago Tribune, February 27, 1872):

Mr. J. F. Steward, the assistant geologist, being unable to leave his blankets, we made a bed upon the main cabin of the "Nell," and lashed him upon it. We heartily sympathized with the sufferer. An enthusiast in geology and its kindred sciences, Steward has found in this journey rare opportunities for the pursuit of his favorite studies. Continually absorbed in scientific investigation, making collections and drawings of fossils, measuring cliffs and studying strata—he has been constantly active; now, worn with work and exposure, he is obliged to give up.
this time dinner was ready; Prof., Bish and Fred were in camp. After dinner Beaman took a view while I was getting the bedding ready, and at 2:10 started out. Yesterday we made 10½ miles. The scenery in Monument Cañon is not varied; the walls however are now about 600 feet vertical on both sides and increasing in height as we go. The cañon is growing narrower and seems more like a cañon, though there is no great amount of views to be taken. We spent the time chiefly in rowing, singing and talking. We landed on the left bank at 4:30 for the night among the rocks and sand; found a few willows and cut them. Bish built a fire on a big flat rock as the wind was from all directions we thought. Sat around it, were well smoked. We mildly talked with Bish on the simpleness of building fires on flat rocks. He only said, "Pile on your abuse." Fred cooked a lot of corn starch for supper; it was gay; was not much left of it in 5 or 10 minutes you bet. The Prof. tried to get a joke off on me about being pious, a true Christian, and the best shortstop in Dupage County, &c., &c. Have made 6½ miles. Sat around the fire till 8:30, then all turned in.

Oct. 18th. Beaman took several views looking down the cañon after breakfast. Did not break up camp till 10:45 and then started out. Dropped down around the bend about a mile when we came to what we called afterwards Sentinel Creek and camped on right bank. At the mouth of the gulch is a huge solitary slab of rock originally part of the cañon wall but now detached from it, and just ready to fall into the river. 'Twill form a fearful rapid; 'tis about 15 feet thick, 300 or 400 feet in height and 60 to 75 feet wide." From down the gulch a stream of pure cold water comes winding down. Beaman and Prof. went to examine it; they soon called to us to bring up the boxes, so Fred and I shouldered them and had them set up in the gulch ready for "biz." The walls are steep, vertical and winding, are about 500 feet high and 100 broad. The creek comes tumbling over the pebbles in miniature cataracts and rapids; on the bank a dense growth of willows, &c. I took a couple of good views, Fred being my assistant. Beaman and Prof. killed a rattlesnake nearby. By the time we reached camp found dinner ready. We are camped on the sand; have built a wickiup for Steward. After dinner Prof. and Fred tried to climb up out of the gulch but returned in a couple of hours and said it was "wormy." While Beaman was taking views I amused myself by cleaning and polishing 25 glass under a paulin. Bish near me, platting his map. Did not quite finish my glass before dark. Helped Beaman to make our beds and the wickiup. After supper built a fire in front of the tent. Spent a

*Sentinel Rock still stands. The creek is now called Wahweap.*
pleasant evening reading, &c. Jones has a very bad leg. Steward is no better but has succeeded finally in making himself a perfect fool by his boorishness and crossness. Swears at anyone that does anything for him, or does not; it makes not the slightest difference. There are few, very few in this party that deserve the title of gentleman. It is constantly a wrangle and chin music from morning till night. Ah me! I will be glad when the trip is over with. Turned in at 8:30 p.m."

Oct. 19th. Rose early and finished cleaning the glass before breakfast. We finally started out at 9:15, the river winding, the walls reaching up 1000 or 1200 feet perpendicular and narrower; are seamed and scarred. Current is fair. We landed on the left bank for dinner at about noon on a lot of rocks and sand, Steward grumbling all the time. Soon we collected enough wood for dinner. Prof. said he wanted me to take some views, so getting Bish for my assistant went up the river a short distance and took a couple of fair negatives. Returned by dinner time. Started out again at 2:15, ran down 2 or 3 miles and landed for the night on left bank at 3:00 p.m. Our camp in the middle of a bend and on a sand bank. Of course we crossed the river to take some views; I took 3 or 4 looking up and down the c&ion. The Prof. brought in a yucca stalk 20 feet long. Recrossed the river when Fred and I found that we had left our guns on the other side. Took the "Emma" and went after them. Had "farina" for supper. Have made 6¾ miles today. Spent the evening as usual around the fire, reading, writing, talking and smoking. Turned in at 9:00 p.m.

Oct. 20th. After breakfast this morning Beaman took a view looking up the c&ion, while I fixed some developer, filtering, &c. Finally broke up camp at 9:30 a.m., and started out against a strong headwind that kicked up quite a sea. After twisting and turning for about 3 miles stopped on the right bank to take a view of the opposite wall. The "Nell" dropped down ¼ of a mile and camped for dinner on the opposite bank and on a sandbank, the sand blowing in all directions. While I was trying to put up the dark tent the infernal thing blew over almost, spilling about ½ of the bath, and finally got things to work. Could only coat 4/5ths of the plate on account of the bath. Managed to get a view. Loaded up and dropped down to the "Nell." While eating dinner diluted our food fully ½ by mixing it with sand. After dinner and the 2:00 observation, dropped down a couple of miles, pulling hard against a strong headwind that came sweeping up the c&ion. The "Nell" ran aground. Camped at 3:30 on the left bank for the night. The Prof. wants to climb out at the gulch that comes down at

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"On any river voyage so long and arduous as this, men get on each others' nerves, and sentiments such as Clem here expresses are not uncommon."
this place." There is plenty of driftwood and a good camp among the willows and sage bushes and grass, thank fortune. We set fire to the grass and allowed part of it to burn off and then built our camp-fire, gathered a lot of wood, &c. Cut some willows and made our beds. Found traces of Indians and horses that had camped here this summer. The trail goes winding up the side of the gulch. Also found an old house made of stones, poles and grasses. The walls here are about 1000 feet high and almost perpendicular on both sides. Are seamed and scarred with many a crevice and projection. We are only 3 or 4 miles from the Pahria, the end of this year's travel by water. 'Tis like a winter night, so dreary and everything looks so desolate. The wind sweeps in gusts up the cañon moaningly. We gathered closely around the cheerful fire. Helped Bish take the 9:00 p.m. observation.

Oct. 21st. This morning after breakfast Prof., Bish and Fred started to climb out while I went to work to make a new bath; the rest reading and writing. Steward is getting better and Jones's leg worse; can hardly walk on it. By the time I had the bath ready 'twas dinner time. We could plainly hear the boys firing up on the mountain and could hear the echoes as they rolled from cliff to cliff; they are very fine indeed. Took the 2:00 p.m. observation and then took 3 views. Prof. and party came in at 2:20. Said that they could plainly see the Pahria River and Marble Cañon; said that there was a grove, a good camp, &c. Beaman took a view of Steward and I a view of Andy and the camp. Packed up the boxes and had a good supper of beef soup, &c., then gathered a lot of wood, built a good fire and spent our time in reading till 9 o'clock. Our evenings are very pleasant. Prof., Bish, Jones and Fred are good company. But Steward has lost the respect of all by his infernal crossness.

Oct. 22nd. Spent the forenoon in reading and writing my diary. Have not written a word in it since last Sunday. Prof. and Beaman went up the gulch to find some views. We got to firing at a mark on the cañon wall; the excitement grew and some 30 or 40 shots were wasted. My gun shoots splendidly. After dinner Beaman and I went up the gulch; we took 3 fine views. As the gulch is ½ a mile down the river, after packing the boxes we left them on the rocks covered up by the rubber blanket and will pick them up in the morning as we go down in the boats. On returning to camp went to work on my diary and here I am lying out at full length on the bed. Supper almost ready (going to have corn starch pudding for supper you bet) and it is 5:15. I wonder what the folks at home are doing just now. I wonder if they are thinking of me. I hardly

*The gulch was Navajo Creek.*
think they have received my letter, diary and pictures that I sent out at the Crossing; they may though be reading them. Read till supper time. Steward is better but Jones is sick abed with a bad leg. Had a good supper, soup chief dish. Turned in at 9:00.

Oct. 23rd. After breakfast this morning loaded the boats. Jones is worse, had to change places with Steward, the latter taking the chair, the former lying on the main hatch of the "Nell." The "Emma" started out first, dropped down to where we had left the boxes last night, and after wading up to my neck in mud, got them aboard. Just around the bend the walls are fully 1500 feet in height on the right hand; on the other bank "Tis broken into low bluffs, valleys and gulches over which the trail leads to the Moquis Indians. The river is very quiet and smooth. As we rounded the next bend came in sight of the Pahria—the end of our journey by river this year. On the right bank found the old boat that the Maj. and party used last year to cross here on their way to the Moquis; the name of it was the "Cañon Maid" with W. H. G. (initials of Walter H. Graves who was with the Maj. last year). We landed, examined it, found fresh tracks around it and also signs that it had been used lately. We then dropped down to the head of the Pahria ¼ of a mile away, landed on a sand bank and fastened our boats to the willows 25 yards back, then cut a road through them and made camp in the midst of a dense growth of willows. Bish, Steward, Beaman, and my wickiups are on the side of the trail. Jones, Andy and Fred's are a few feet above us. The kitchen is opposite and Prof.'s is still farther beyond. We have trails leading to all of them. So you see we have a pretty pleasant, cozy camp; are protected from the sun and wind, &c. Just back of camp and against the cliff is the remains of an old house made of straw, sticks and stones, and on the cliff is the remains of the old fort. This place and the Crossing of the Fathers above, used to be the crossing where the Navajos used to drive stolen stock and sheep from the Mormons to their country. A lot of Navajos came over a few years ago and drove off a flock of 600 sheep, drove them down here, waited till the river was frozen and crossed them over on ice. The Mormons in following their trail discovered the mouth of the Pahria. Since, they have kept a guard of men at each place to intercept the Indians on their

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**This old zig-zag trail, on the left bank just above Lees Ferry, is sometimes still used by Navajos.**

**The barge which Powell built to cross the river in 1870. Timbers of this heavy craft may still be seen in the walls of John D. Lee's original cabin at Lees Ferry.**

**The "old fort" refers to an Indian ruin on top of a high knoll, often erroneously called "Lee's Fort."**
raids; but last year they succeeded in making a treaty with them and the guards were discontinued. After bringing up our baggage, &c., 'twas dinner time. After dinner mended my breeches, &c. Read and wrote till supper time. After supper we gathered a lot of driftwood and built a cheerful fire around which we sat talking, smoking, reading and writing and speculating when the train would be in. All turned in at 9:00 p.m.

Oct. 24th. After breakfast thought I would take a look around camp. Went up the valley of the Pahria only a mile and a half long when it closes up with lofty ridges and peaks; in fact 'tis only a little lateral cañon with the Pahria River running through it. The stream itself is about 4 feet wide and 6 inches deep. We are camped at the head of Marble Cañon and at the end of Monument, also at the head of a rapid 3 miles long, so Jack Sumner says in his diary. Did some washing and mending before dinner. After dinner set up the dark tent and made a couple of fine negatives looking up the river. Spent the evening as usual.

Oct. 25th. Put a back to my vest, darned some stockings, &c. Fred is finishing up his sketches. Prof. and Bish are taking observations for latitude and longitude. Steward and Jones abed trying to be sick, Beaman reading here by my side in the wickiup and Andy superintending the kitchen. 'Tis dull, quiet and monotonous. After dinner took a good bath in the river, put on clean clothes and feel better.

Oct. 26th. Prof. and Fred took a climb up the mountains back of camp. Mixed up some developer, cyanide sulphuret, filtered bath and put a package of glass in to cyanide to soak. After dinner washed and polished them. Prof. and Fred returned at 3:00 p.m. Read in afternoon and evening. Spent a pleasant time with Bish and Fred around the camp-fire.

Oct. 27th. After breakfast Beaman and I carried the boxes up on the cliff. Beaman, after pointing out several views, returned to camp. I put up the tent and made 3 fair views looking up the Pahria Valley. Went down to dinner (leaving the boxes up there) after which returned and made 5 more views in different directions. Returned by supper time, leaving the boxes up there over night. Beaman, Prof. and I amused ourselves by firing at a mark. Turned in at 10:00 p.m.

Oct. 28th. There have been several wolves [coyotes] prowling around camp mornings, and Fred has tried to shoot them but 'twas no go. After breakfast Bish and I went back on the hill, Bish to put up the flag and I to photograph. After the flag was up Bish went on up the Pahria Valley. When I was about through heard a whoop on the other side of the river. On looking across saw a band of Navajos on horses. It did not take me long to pack up and bring the things down. On
reaching camp Prof. introduced me to Jacob Hamblin (Prof. and Fred had brought him over in the boat) and found that it was Jacob Hamblin's party on their return from the Moquis, consisting of himself, a Mr. Haight and a George and Joe somebody, and also had brought over a band of Navajos, 9 in number, with a lot of blankets that they intend to trade off to the Mormons for horses, &c. Fred and I bailed out the water from the "Nell" and with Prof. and Hamblin in the "Dean," crossed over to bring Navajos, ponies, traps and all. After getting blankets, bridles, saddles, &c. over and part of the Navajos, had sweet time in getting the ponies. Each boat would take 2 at a time, i.e., 2 of us at the oars, one in the stern holding onto the lariats and holding up the heads of the ponies as they swam behind. Some swam across on their own hook; one or two that we were leading over would have gone up [under?] if their heads were not held up. As it was they were towed over by main strength. All were about played out by the time that they reached this shore. In crossing here last summer they lost one horse by drowning and going over the falls. The Navajos were rather timid about coming over in the boats; one fellow stripped and tried to swim across, but the water being very chilly it soon benumbed him, and he would have sunk if the "Nell," in going over on another trip, had not have picked [him up] in mid stream. We, i.e., Fred and I, brought over the last load of the Navajos. They are a fine looking set of fellows, tall, well-built and intelligent. They are the Indians of the West and can more than hold their own against the rest. The nation numbers about 15,000 and are at peace now with the government and the Mormons. The present band here is headed by their chief "Koneto," a middle-aged, noble looking man. Their dress is a light cotton shirt and breeches, leggins and moccasins. They have quite a number of splendid blankets of their own manufacture. I am going to try to get one at Kanab. Were armed with bows and arrows; the chief in addition carried a pistol. We gave them a good dinner. The coffee especially brought out the "wanos." After dinner we set up the tent to take a picture of them, but finding that we were out of acetic acid, had to give it up. Seeing a duck in the river shot it with my rifle which greatly pleased them. I then gave them some tobacco and we all smoked the cigarettes of peace. Bish, Fred and Andy prepared a big supper for all hands and when it was ready all hands turned in and did it justice. After supper we built up the fire, smoked and talked

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Hamblin was returning from the Navajo country after concluding a treaty of peace on behalf of Mormon settlers. His companions were Isaac C. Haight, George Adair, and Joe Mangum, all of whom had been participants in the Mountain Meadows Massacre in 1857, Haight having said to be principally responsible.
awhile and finally got the Indians to sing songs for us. Some of their chants were rather pretty, and then persuaded all of the Indians to dance while the chief paddled away on the bottom of an inverted camp kettle. All of us, white and red, joined hands and danced around the fire, the Indians singing war songs. We had a gay time and lots of fun. The Navajos seem to be a free hearted, social, chatty, intelligent set and instead of being the stoics that popular tradition makes the Indian, it is the reverse. They laughed as heartily at our blunders in the war dance as we did at them. Suddenly they all started up and made for their blankets. Mr. Hamblin and the rest of us sat up, Mr. H. and the others relating to us their Mormon experiences and singing to us Mormon songs, &c. Mr. H. will leave us some of the finest beans I ever saw; they are Mormon beans; instead of being white, of a reddish brown color.™ We set a pot of them to boiling and will have them in the morning. Will also leave us some Moquis peaches, &c.

Oct. 29th. Rose early and helped to get breakfast, which being ready in a short time was soon dispatched, the beans going down with a relish by all. Mr. Hamblin and party started out after breakfast, first driving up the horses and then packing them. Steward traded his canteen off for a water jug, Fred his cap for a plume, Beaman gave them his old hat, and I gave one of them my B. B. [baseball] cap, but it being to[o] small for him he looked so comical in it that it raised a storm of laughter from all. The poor fellow jerked it off and stuffed it in his blanket saying "cotch-wano" [not good]. When all was ready we shook hands all around and bade them good-bye. The Prof. told them to hurry our train up, that we were wearily waiting for it. Our work is all done but caching the boats. They soon disappeared up the trail and we were once more left alone. Have been reading and now 'tis dinner time. After dinner we read, took a row up the river a little way. Bish and Fred went bathing in the Pahria. We are short on provisions and unless the train comes in soon will be hard up. Prof., Bish, Fred, Andy and I spent the evening pleasantly around the fire.

Oct. 30th. After breakfast cleaned and oiled my gun. We then commenced caching what things we did not want to take to Kanab. I cached a pair of overalls, a couple of pairs of shoes, a shirt, some stockings, &c. Beaman cached our chemical box, cached empty sacks, clothing, &c. Dug ½ dozen holes in the ground and buried the things in them, the holes being at different places among the rocks. After dinner crossed the river in the boats and cached the "Emma" by the side of a big rock,

™Dellenbaugh calls these "Mexican" rather than "Mormon" beans, and this was most likely correct.
Fred and I digging a trench for her. All had a fearful tug in getting the boat up the steep bank. Of course Steward commenced growling, when Prof. went for him and told him he was sick of hearing him growl, &c., &c. It being sunset by the time we had got her into her place, left her till the next day to cover her up with willows, &c. Andy hurt his back in lifting; helped him to get supper and wipe the dishes. Steward being mad, refused to eat, although the Prof. carried some to him. He has lost the respect of the party by his constant growling.

Oct. 31st. Spent all forenoon in building a shelter against a huge rock back of camp for the “Nell.” Cut logs and put them against the rock and then piled willows on top of them. Will not put the boat into it till the train comes in, when there will be more to help carry it. It is too much of a lug for 6 men, Steward and Jones being played. After dinner we crossed the river, cut a lot of willows, &c., completely covered the “Emma” so that neither rain nor snow can get to her; returned in about an hour. Have been reading my letters and now am writing my diary. Ah me, I wish the train would come in. We are all growing impatient for our mail, and this forced inactivity is growing wearisome. We are having splendid moonlight evenings now, the moon looks fine in coming over yonder cliff. Bish, Fred, Andy, Prof. and myself sit up till 9 or 10 o’clock around the fire enjoying the scene.

Nov. 1st, [1871]. Have been expecting the train in all day long but nary a train so far. We have been having splendid weather, thank fortune. Have done nothing but read; have finished “Macbeth.” Spent evening pleasantly by the fire.

Nov. 2nd. Just after breakfast a Mr. Mangy [Mangum] came riding into camp reporting the train back some 8 or 10 miles in the mountains. Said that they had started out from Kanab a week ago Monday but had lost their way and had hard work to find water, &c.; that he had pushed on ahead to find a way down to the mouth of the Paria; had left the train yesterday morning and had had nothing to eat since; camped a little way up the Paria last night. After eating a hearty breakfast started back again. Told us not to expect the train in before tomorrow afternoon. Read the part of “King John”; like it. Read most of the afternoon. Capt. cut my hair and lent me his

Although traveled by Major Powell in 1870 when he visited the Hopi villages, the trail from Kanab was not well marked. An inscription near Lees Ferry indicates that Al Huntington and C. E. Holladay had been there in 1857; Hamblin had visited the place several times. Paria settlement had just been established on the Paria River 30 miles above this camp, off the direct route to Kanab. The first wagons crossed here in 1873. See also Dr. Gregory’s note, p. 105.
cap to wear, my hat being played. Had a wash in the Pahria. Train did not come in today. Turned in at 10:00.

Nov. 2nd [Nov. 3]. After breakfast Prof., Fred and I started up the Pahria in hopes of meeting pack train. (Yesterday Fred and I crossed the river and cut a water mark 6 feet high on the rocks to indicate the rise of water next year.) Fred was armed with Prof.'s revolver and chunk of bread, Prof. with a field glass and I with Cap's revolver and belt. After going up the valley about 4 miles turned and had a weary climb up the mountain, part of the way over heavy sand, which about played me out. We of course have been following the trail of Mr. Mangon [sic]. On reaching the top of the plateau swept the horizon with the glass but could see nothing. It being noon we ate our bread and then Prof. and Fred started off in different directions leaving me to signal in case I saw them (i.e., the train). Shortly I heard Fred shoot and knew he had found the train. I soon saw the train. Fred and Prof. came winding up out of a gulch and soon I was shaking hands with Mangon, Joe Hamblin and [George] Riley. We had quite a hard time in getting the train down from the mountain but succeeded in doing it without accident. After reaching the Pahria Valley 3 of the extra horses were saddled, Prof., Fred and I mounting, and had a gay ride to camp 4 miles away. The first thing we did on reaching camp was to go for our mail, Fred's and mine being the largest; Fred's 11 and mine 10, the largest I have received yet—2 from Morris, 2 from Fanny, 4 from Belle, and one each from Fred D. and Frank Morse, also a printed letter of mine in the Tribune. We sat up till about 11 o'clock reading letters and papers from home around a bright, cheerful campfire.

Nov. 3rd [Nov. 4th]. Nothing of importance for today's journal. In the forenoon reread our letters and papers, then Bish and I took Mangon and Joe [for] a ride about 2 miles up the river; seem to enjoy it hugely. Among the rations were about ½ bushel of potatoes—quite a luxury. At noon Mr. Haight and [Charles] Riggs came riding in with a pack mule from Kanab. The train being so long on the way and nothing heard from it, were feeling anxious at Kanab, fearing that it had been lost in the mountains, and knowing that we were about out of rations. So Mr. Haight and Riggs came down with a small supply. Were rejoiced to find everything O.K. Reported

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*Clem writes in the Chicago Tribune, February 27, 1872:

When our situation became known at Kanab, after the arrival there of Ham[b]lin, it became apparent that the regular train had gone astray, or it would have been seen on the trail. Messrs. Haight and Riggs, large-hearted gentlemen that they are, loaded a pack
that about \( \frac{1}{4} \) of Chicago was burned, but gave no particulars. We are all feeling anxious about it. Brought down a roll of butter which went down with a relish with the potatoes. After dinner was over we cached the "Nell" in the shelter prepared for it. Fred and I cutting willows and covering it up at bow and stern. Weather threatening.

Nov. 5th. On waking up this morning found the surrounding cliffs white with snow, air frosty and keen. Read all day long, huddled over our fires. Prof. at dinner time showed me a printed letter of mine written from Gunnison [Crossing]. It was in one of his Tribune's. Prof. and I cached a few articles in a cave we found under the cliff. Fred and I dug a hole near the driftwood pile and cached about 200 lbs. of flour. Spent the evening as usual around the fire. Wrote a letter to Morris.

Nov. 6th. This morning after breakfast all was bustle and confusion and preparations made for breaking up camp. Haight, Riggs, Mangon and Joe Hamblin started out at about 8½ o'clock with one pack animal, intending to make Kanab in 2 days by hard riding. We then cached the chair and the oars of the "Nell" in the cave; then came the packing of the animals to the number of 6, leaving 5 riding horses for 9 men. We had trouble in packing the 2 broncs, or wild horses, only caught a short time before, one being with foal. We had dinner at 11:00, after which Bish and Andy started on ahead afoot, and then Fred went after the steer and drove her up to camp, but while we were delayed about one thing or other, he slipt [sic] away and went up the valley. Fred mounted a horse (Billy) and went after him and so by the time we started 'twas 3:30 o'clock. I stayed behind waiting for Fred. After waiting about an hour Fred and the steer came in. Found Steward and Beaman waiting for us a short distance ahead. We then started out to overtake the train. The trail leads down the river under the bluffs in a southwesterly direction. Beaman and Steward changing horses at times, Fred and I doing likewise, we kept traveling on, following the trail till just about dark we came up with the train at Seep Spring and went into camp for the night. Have made about 6 or 7 miles. We unpacked the animals then hopped [hobbled] them and turned them out to feed. The only wood we could find was a few sagebrush, of which we gathered enough to fry a little "sowbelly"; the bread we baked at the Pahria before leaving. After supper we made our beds in the bottom of a dry creek, and it being cold went to bed without undressing. We have had less trouble with animal, mounted two horses, and hastened to our rescue. They made the journey in two days, driving furiously. These prompt and generous efforts in our behalf we gratefully acknowledge and will long remember.
Jones than we expected, though he has done nothing but grunt and groan, making a complete fool of himself.

Nov. 7th. Passed a cold, disagreeable night and arose shivering. We collected some more sagebrush and had breakfast. Riley and Beaman went after the animals, returning in time to eat breakfast with us. While packing one of the bronchos it bucked, and Steward who was holding it was "laid low in the dust." No damage however. After the horses were all packed and saddled Bish and I struck out ahead to have a pleasant time by ourselves, preferring to walk than to be among the infernal "chaw mouths" of the party. We had not gone far before it commenced snowing thick and fast, but on reaching mother earth, melted. We had a splendid view, the bluffs rose on our right hand, the Colorado wound at our left, a gigantic crack in the earth. Beyond it were another line of bluffs, but they soon broke down and joined the comparatively level plateau. The trail, like some huge serpent, wound up and down over the uneven ground between the river and bluffs. Oh, but the finest sight was to see the clouds resting on the tops of the bluffs and when they would break away for a few moments would see what before was bare and brown now covered with a soft fleecy coat of snow. The exercise of walking kept us warm. We saw Andy following us at a short distance and we waited for him. When traveling with a pack train one can only indulge in two meals a day on account of unpacking and packing the animals at noon. At about 2:30 p.m. the train caught up with us and the boys offering us a ride we accepted. About an hour before sunset the "Deacon" [Jones] began to blubber and cry, and we were compelled to camp in a little hollow and build a fire with a few little white sagebrush. Prof., Riley and I went about a mile to find some water but we had to dig for it. If Jones hadn't acted the baby, could have made Jacob's Pool about 2 miles farther on. In the morning we passed "Clear" or "Spring" Creek and 5 miles from it Soap Creek. The night set in cold and dreary and the wind came sweeping down the gulch. We shivered over our small fire—small for we wanted to save enough for break-

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*Clem adds, in the Chicago Tribune, February 27, 1872:

After digging for water, we succeeded in obtaining a little moist mush—a sort of liquid red sand. This style of geological research dampens the spirits of the amateur scientists more than it quenches his thirst. Indeed, I opine Hugh Miller himself, [author of Testimony of the Rocks], would scarcely enjoy taking in the "old red sandstone" by the pint.

*Jacob's Pools were located near the base of the Paria Plateau. Between this date and June 3, John D. Lee built a shelter there, installing Rachel, one of his wives, to look after 40 head of cattle. See Bishop's journal entry for June 3, 1872, in this Quarterly, 1947, vol. XV, p. 237.
fast in the morning, but one by one each brush disappeared until finally the whole pile was consumed and we crept off to our blankets, cold and sleepy.

Nov. 8th. Arose early. Riley and Beaman went after the horses. Prof. and Fred went after water (by the by I forgot to say in yesterday's journal that our water is only a thin solution of red mud) while Bish and I gathered some wood. By the time the animals were up breakfast was ready. It being dispatched with, we packed the horses and the train started on, Andy and Bish going ahead. We soon made Jacob's Pools, where all quenched their thirst, Fred and I changing off riding and walking, as did Steward and Beaman. I took the precaution of sticking half a loaf of bread in my pocket, which stood me in good need at noon. The trail has changed to directly east. Away to our left is Axe Mountain, while before us is Kaibab Plateau. Yesterday we made 17 miles. Last night the thermometer stood at zero. Just as the sun was sinking behind the plateau, we reached Rock House Springs, our destination. Unpacking the horse we soon had a fire burning. The spring comes out of the side of the bluff in sort of a gulch. Before us is Rock House Valley, 2 miles broad, and 15 or 20 miles in length. Beyond is Kaibab Plateau. After supper we were off to bed. Have made 17 miles.

Nov. 9th. Prof. and Riley rode out on Kaibab and were gone all day. Fred and I had a long tramp hunting the steer. In the afternoon Bish, Steward and I went out to hunt pottery and arrowheads; we found several fine specimens. On returning to camp read till supper time. When Prof. and Riley came in, said that they had seen Kanab from the top of Kaibab.

Nov. 10th. This morning Riley and I went after the horses to bring them up to water. After breakfast Fred mounted a horse and went to look up the steer. Bish and I hunted after pottery and arrowhead. At noon Fred came in with the steer. After dinner Andy shot him, but as he only wounded him, Riley had to chase him and bring him up to camp with a lasso, doing it in fine style. Andy in shooting the second time was more successful, and we soon had him hanging up in pieces to a tree. We had a jolly good supper, you bet.

Nov. 11th. This morning after breakfast, Prof., Riley, Steward, Jones and Beaman and 7 animals left us for Kanab.

Dellenbaugh says:

About sunset we passed two large boulders which had fallen together, forming a rude shelter, under which Riggs or someone else had slept, and then had jocosely printed above with charcoal the words "Rock House Hotel." Afterwards this had served as identification, and Jacob and the others had spoken of "House Rock" Spring and House Rock Valley. We called it the same, and finally it went on the maps and is now permanent.
We have probably seen Steward for the last time. We bade him good-bye and good luck. Fred accompanied them to the top of the Kaibab taking an extra horse for Jones and bringing the one Jones rode back, returning by noon. We are now reduced to 4—Bish, Fred, Andy and I. The party could not have been divided better—we all agree to that. We have 4 horses, are well armed, and have plenty to eat, and nothing to do. Do not know how soon we will see anyone again, and don’t care much. We put up the tent, cut grass and spread it over the floor and then spread our blankets. There is room for all. In the evening I went after the horses, driving them up to water. Andy attends to the cooking and we are having a gay time.

Nov. 12th. Sunday morning again. Spent the day in reading letters and papers. Wolves are plenty and we see them often, but as yet have had no chance to get a shot. Crows, or California vultures, are constantly hovering overhead. Have fired several shots at them but missed. We had beef soup for dinner and supper. The whole party is disgusted with the way the expedition is run. Bish is going to leave, Steward has left, Jones will leave if he has any spirit in him. Being called a baby and calf would be enough to send any ordinary fool out of the party. It will take mighty little to send Fred and I home; even Prof. said if things did not go differently he would leave. Ah well, I have tried to do my duty and think I have won the respect of the better part of the company. Bish sent a letter to Morris by Prof. from here telling him how things stood. Also wrote to Mr. Fields asking for employment.

Nov. 13th. It being my turn to go after the horses, started after breakfast. Saw a coyote. If I had had my gun along could have had a splendid shot. Drove up the horses, riding “Major.” Bish and Andy shot at a wolf drinking at the spring, but missed him. Fred went out hunting, so I started out with my gun. Had not gone far before I shot a mule-eared jack rabbit, brought him to camp and started out again. Took a long tramp up and down the Rock House Valley, but nary a wolf could I see. Returned at dinner time. Spent the afternoon in reading. At 4 o’clock Fred started after the horses and I went down the valley after wolves. Did not see any however, and soon returned. The wolves come around our tent every night, around our fire, and around the beef, picking up scraps here and there, but still they are shy. I hope we

*Four men, including Clem, were detached in House Rock Valley “until,” as Dellenbaugh says, “the plan for the winter’s campaign had been better formulated.” Meanwhile the others went on to winter quarters in Kanab. During their 25 days’ stay in House Rock Valley, Clem and Bishop understandably became disgusted with the expedition and its leader.*
will kill some for their skins. Spent the evening very pleasantly around the camp-fire talking about friends and home and wishing that we were with them. Turned in at 9:20.

Nov. 14th. Fred put a new sight on his gun. Bish's turn to go after the horses. Fred shot at a wolf and missed. We hunted after him for awhile but could not find him. On returning to camp heard them howling a short distance from camp; turned out to hunt them but were unsuccessful. Andy went to the top of Kaibab Plateau; returned at 1:30 p.m. Did not see any game. Fred went out hunting for an hour or so, did not get anything. Bish and I stayed in the tent, Bish mending his breeches and I reading. Took the 1 o'clock observation, built a fire for Andy and brought some water. Only had two meals today. Took a lunch at 8:00 p.m. Spent the afternoon in reading. At 4:00 p.m. started out after the horses, drove them up to water. We then gathered a lot of wood. Bish has built a pen and "set" his pistol in hopes of securing a wolf tonight.

Nov. 15th. After breakfast this morning I have been sitting by the fire writing up my diary for the past week. Andy is getting wood, Fred is just coming up with the horses and Bish has gone hunting. I am tired of writing diaries. Will be glad when the time comes when diaries "will be no more." As it is I am going to take a rest for awhile. Adieu.

Next morning 10:00 a.m. After reading for an hour or so, we went to work, built a platform to dry the meat on, then Bish, Fred and I "jerked" all of the beef except one hind quarter for our immediate use. We strung it on willow sticks and then laid them on the platform about 4 feet from the ground. Bish carefully saves all the bones to make soup. We have enough to feed a regiment of soldiers a year. Got through at 3:00 p.m. We then had dinner and supper, after which Bish went after the horses, Fred and I cut down a tree, while Andy built a fire under the meat to dry it. We then agreed to sit up during the night to watch the meat from the wolves and to keep the fire burning. Fred to sit up from 9:00 to 12:00, myself from 12:00 to 3:00, and Bish from 3:00 to 6:00. As Andy does the cooking we let him off. As Bish, Andy and I were going to bed we heard a small earthquake from the direction of our wolf pen. We all rushed out to the pen and found nary a wolf; found the pistol exploded and a piece of wolf's hair near it. Most of the bait eaten. His wolfship must have thought it a queer piece of rabbit leg. When we were up there heard unearthly howls from all parts of the valley, first one, then another, and then all joined the chorus. We reset the trap with more care and all except Fred returned
to their blankets. At 12:30 Fred called me. I sat by the fire thinking of the dear ones at home, wondering how they were, if they were well and happy, if they often thought of one so far away who loves them so well. Ah, I would give a good deal if I could help Morris during the holidays. Poor Morris, I am afraid he is working too hard. Called the Capt. at 3:30 and then turned in once more.

Nov. 16th. Went after the horses this morning and drove them up to water. Read nearly all day long; wrote my diary. Found that I had left my gun-cleaner at the Pahria—am sorry. Had dinner at 3:00 p.m. Fred and I gathered in a lot of wood. Weather growing colder, heavy snowstorm on the Kaibab. Snowed a little here. The wind howled dismally. This is camping out with a vengeance. Fred and I broiled a little meat on the coals before going to bed at 7:30. Our tent proves quite a shelter. The expedition is a farce. 'Tis a shame to leave us out here while the rest have gone to Kanab. It will take mighty little to send me home. There Morris is working hard from 6:00 in the morning till 9:00 at night, thinking I am benefitted [sic] by it, while I am loafing out here doing nothing, to gratify a freak of the Maj.'s. Fred went after the horses last night and not returning till late Bish and I started out after him. Had trouble in finding them; met him.

Nov. 17th. After breakfast we all greased our shoes. Bish went after the horses and I am writing my diary. Bish having trouble finding the horses, I went out to help him, found them in a hollow. After dinner Bish and I brought in some wood, and then read till supper time. While Bish was setting his pistol in the wolf pen Prof. and Riley came in with the pack train, bringing mail, papers, rations, chemicals, &c. Received one letter from Morris, one from Fanny, one from Charles Stutenroth, one from John Richmond, and one from Kate Richmond. Read in the papers about the great Chicago fire. While we were reading, the pistol went off. Bish soon returned bringing in a coyote which he skinned. Turned in at 9:30.

Nov. 18th. Read nearly all forenoon. After dinner fixed up my chemicals, cleaned glass, &c. Prof. went on top of Kaibab. After supper Bish brought in another coyote which he and Andy skinned. All quiet.

Nov. 19th. Prof. and Bish rode out on the Kaibab for topographical observations.* Riley shod horses and I took 4 good pictures of camp, &c. After putting my things up dinner

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*After a lapse in his diary occasioned by running out of paper at the junction of the Green and the Grand, Bishop on this date resumed it, and his views as well as Dellenbaugh's from this time may be compared with Clem's.
and supper was ready. After that was over, commenced writing a letter to Fanny, sitting by the camp fire.

Nov. 20th. After attending to little duties around camp, finished letter to Fanny. Prof. and Bish went out for about 3 hours on the cliffs back of camp. After dinner and supper, commenced a letter to Ida Richmond and finished it at night, lying in the tent and writing by the light of some candles Prof. brought from Kanab. Turned in at 10:00.

Nov. 21st. After breakfast Riley and I went after the horses. Prof. started for Kanab this morning, taking our letters out. Bish and Fred went to the top of Kaibab with him on "Yager" and "Dick" to take topography of the valley. Have been reading all day. We gathered a lot of wood and had a good camp-fire at night. Played ball and fired at marks on the cliff.

Nov. 22nd. Finished "King John" and have been writing my diary; then went to work finishing pictures and fixing my chemicals. Found that my bath will not work and will have to suspend operations till I can get some nitrate of silver. Gathered some wood. After supper Bish, Riley and I played euchre till bed time. Turned in at 9:00.

Nov. 23rd. After breakfast Bish and Fred went back on the cliff to take topography; threw down a lot of wood from the top; found a Moquis cave, arrowheads and pottery. Returned at 2:00 p.m. Wrote letters to C. W. Stutenroth, Fred Dudley, Frank Morse and George Van Nest; finished just before supper. Bish, Fred and I gathered wood from the foot of cliff. Bish, Riley and I played euchre. Turned in at 9:00 p.m.

Nov. 24th. This morning at 5:00 Bish's pistol went off at the wolf pen. Bish instantly rushed out—in about an hour returned with a wolf and then commenced to skin him. Riley started for Kanab at 11:00 a.m., taking out our mail. Am out of envelopes. Read nearly all day. Very windy all day, especially at night. Am thankful that we have a tent and shelter. We brought in some wood toward evening and had a capital fire at night. After talking and smoking turned in at 8½ p.m. When Fred and Bish were on the cliffs they gathered some "tamanue," which mixed with tobacco makes fine cigarettes.

Nov. 25th. We all rose late. I intended going with Bish and Fred to the top of Kaibab but could not on account of barometrical observations. Made some good shots at ravens flying around camp. Andy and I had good times talking, reading and shooting. Finished "King Richard, the Second"; like it. Bish and Fred returned in the afternoon. Had dinner at 3:00 p.m., beef soup, 6c. Brought in wood and water. Very windy all day. Wrote my diary in the evening. Capt. as usual built a huge fire
and came near burning the tent and scorching my moustache. Spent evening as usual.

Nov. 26th. The rain that commenced last night continued at intervals till dawn. The sun shone for awhile but our hopes for a pleasant Sabbath were soon obscured by the sun passing under heavy black clouds; the rain came down chilly and the day is dark and dreary without and within. Dense masses of clouds are resting on Kaibab. We spent most of the day in reading. Fred made a ginger cake that made us all sick. Only had 2 meals. In the evening we were treated to a lunar bow that stretched from the Kaibab across the valley to the cliffs back of camp. We are wasting valuable time by staying out here. Have spent almost 3 weeks of glorious weather doing nothing and now that it is broken up and cold winter weather is coming on will probably be obliged to run over mountains.

Nov. 27th. Day spent as usual. Reread letters. Read Shakespeare. Weather threatening, raining at intervals. Have been trying to shoot a raven but they are shy. Gathered wood for 2 meals. Helped Bish set his wolf trap. Built a huge fire, sat up till 10:00 p.m. to enjoy it and then turned in.

Nov. 28th. All rose late. Have been reading all day. Think that the “Wonders of the Yellowstone” [is] overdrawn. The weather is colder and the Kaibab is covered with snow. I am getting heartily sick of this infernal fooling and the haphazard manner in which the expedition is run. Here we are in the wilderness, poorly clad, living on flour, meat and coffee, with nothing to do but to herd horses while the rest of the party are in Kanab in snug quarters, decent food and mail once a week. By Heaven if it was not for the name of backing out I would soon say quits with the expedition. After supper Bish and I cut down a tree and brought it to camp, making quite a little wood pile. Fred and Andy also brought in a dead cedar; the green boughs made a good blaze. Read, talked and smoked around the fire till 9 o’clock p.m.

Nov. 29th. After breakfast read awhile and then proposed to Fred to go on the cliff and hunt for arrowheads. Before going Capt. blasted a couple of big logs. In chopping wood the axe slipped from my hand and just missed Andy’s head and struck against the tent. Had poor luck in finding arrowheads. Found remains of Moquis houses built of wood and several caves begrimed with smoke; plenty of broken pottery, &c. Had a splendid view of Kaibab covered with snow clouds and in the midst of a heavy snow storm, also an extensive view of the valley. We returned to camp at about 2:00, found Bish washing and Andy had gone over on the Kaibab. Cap. said he had chased a wolf

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*Dellenbaugh says he argued Clem out of leaving the expedition.*
up the gulch and on top of the cliff above the spring. Fred tried
the experiment and succeeded in throwing down several large
trees, but by the time they reached the bottom were fit subjects
for a match factory. Hearing a shot from Andy, Bish and I
commenced getting dinner and supper. Fred found picture
writings of the Moquis on the cliff and the plug of one of the
logs blasted in the morning. The air becoming colder, the wind
beginning to blow, the snow came down in gusts. The thermom­
eter went down below freezing point and we ate our supper
around a huge fire in the midst of a snow storm, but it growing
still more colder it quit snowing and went to freezing. The
heavens cleared away, the stars came out one by one from behind
the cliff, the moon began silvering the pines and cedars that
line the top of old Kaibab; the shadow descending lower and lower
until reaching the valley it crept closer till it blended its
light with that of our camp-fire. Shades of Homer, Dante and
Shakespeare defend me! Brought in wood, built a good fire,
turned in at 9:00.

Nov. 30th. We all spent a disagreeable night; found it
hard to keep warm. At midnight Andy got up, poked the fire
and warmed up. Half an hour later Capt.’s pistol went off. He
soon returned with a coyote dead—very dead. Quiet again set­
tled over us and just as we were going to sleep were suddenly
aroused once more by a deafening noise caused by rocks falling
from the cliff. We sprang up with the idea that we were attacked
by Indians. At 7 o’clock observation the thermometer stood at
11° above zero. Found that the wolves had cabbaged one of
Capt.’s wolf skins that he had tied to a tree to dry. A few pieces
here and there was all that was left to console the Capt. in his
sorrow. He ate his breakfast in silence and then sang softly to
himself, “There Will Be No Sorrow There,” while skinning
the dead coyote. Have been reading “The Rocks of John Day’s
Valley” by Clarence King, a well known geologist, and Capt.
says that he is working in conjunction with the Maj., he exploring
the land while the Maj. explores the cañons of the Colorado, and
that while he (Cap) and Jones were at Uintah the Indians said
they had seen his (King’s) party at the head of Red Cañon.”
Bish and Fred took “time.” Andy is asleep and I am writing
my diary. Have been reading nearly all day. Had supper and
dinner at 3:30. Gathered wood for evening camp-fire. Had syrup

11. This report was correct. The celebrated geologist, Clarence King, had
just passed through Browns Hole and climbed the mountain forming its
southern boundary, searching for diamonds planted there by two clever pros­
pects. On his favorable report, banker Ralston sold $2,000,000 worth of
stock in San Francisco. King’s horse wrangler, on a subsequent trip, dis­
covered the plant and the geologist admitted having been “taken.” This
incident is known as “The Great Diamond Hoax,” the mountain being called
Diamond Mountain ever since.
for supper. Weather fine and growing warmer. Am growing heartily sick of staying here in camp with nothing to do. 'Tis a burning shame. Confound it all, it is enough to make a fellow swear. Went to bed early.

Dec. 1st, [1871]. Pretty cold during the night. Today is the first of winter and it has been a most glorious day. Read “Mountaineering in Sierra Nevada,” a geological sketch by Clarence King in the May “Atlantic.” Like it. Andy took a trip up over the divide, returned at 3:00 p.m., then had dinner and supper, after which Bish, Fred and I tried to blast some pine logs under the cliff. Blast wouldn’t go off. Darkness coming on, put it off till morning. Fred cleaned his gun. Bish stretched his wolf skin. We expected someone in from Kanab today with mail. We went many and many a time to the brow of the hill and cast anxious glances up the trail. We are getting tired of this life and rations are getting short. Spent evening around the fire.

Dec. 2nd. After breakfast Bish and Fred succeeded in firing off the blasts. Read Shakespeare and Galaxy. Weather fine. Nothing of importance for today’s journal. Gathered a lot of wood toward evening. Looked for someone from Kanab but gave it up as darkness settled over camp. Bish and I were lying in the tent when all at once we heard Riley’s yell, and soon after he came in with 3 horses bringing mail, dried grapes, apples, figs, and some sour wine. Received one letter from Morris, one from Fanny, and one enclosed from Minnie, one from Belle and one from Cousin Lou. Ah! what prizes, what treasures! Immediately dived into the tent and read them, then went for the wine, grapes, figs and apples that Prof. sent us. Riley said that we were to start for Kanab tomorrow morning, but we held a council and decided to put it off till Monday and get a good ready tomorrow. The Maj. had reached Kanab with 2 wagons. Turned in at 10:00. Laid awake thinking of the dear ones at home.

Dec. 3rd. After breakfast I packed up the chemicals and chemical boxes, packed my sack as did all the rest of the boys, and in a short time had everything packed and ready except our bedding. Hope to get an early start in the morning to reach the springs 8 miles this side of Kanab and our winter quarters—so Riley says. We then caught the horses as they came up to drink and hobbled them. Had a good wash. The Maj. has sent no saddles, no bridles, no anything. 'Tis a burning shame. Read my letters and prize them more than ever. Fanny writes splendid letters. Am pleased to know that Morris likes my diary. Riley says that there is a heap of mail for us at the springs. Cousins Emma and Nellie are there also. Even Riley is getting sick of the way things are working. He and Andy are talking of leaving the expedition and go to mining somewhere along the
Colorado. Riley claims that there are $50 diggings, &c., &c. Have been here nearly 4 weeks and all we have done is to eat a beef. Have succeeded in making ourselves fat and lazy.

Dec. 4th. After breakfast Riley and I went after the horses; had trouble in getting them. By the time we were ready to start 'twas 11 o'clock. Bish found Riley's pipe that he dropped in coming over. Went up the valley a couple of miles, then ascended Kaibab, driving the pack animals and leading those that we rode, halting at times to rest. Our way lead through pines and cedar trees, up and down steep gulches, but reached the top in about an hour, height about 1500. Traveled till about 4 o'clock and camped for the night just across the big gully under some pine trees. Built a fire and soon had supper. Bish, Andy, Riley and myself played euchre till bed time, then turned in.

Dec. 5th. Rose at 6:15. Fred, Riley and I had a long hunt after the horses. Came back, had breakfast, packed the horses and once more started on over the Kaibab. From the summit could see Mt. Trumbull to the west, while to the east Molly's Nipple and the Scoop-in-paw rose above the general level and in front of us were the Vermillion Cliffs back of Kanab. Here and there a butte or line of cliffs appeared along the horizon. We are having splendid weather for December, just like October. At noon we commenced descending the Kaibab; it being steep we dismounted and led our animals down and then struck across the valley to the springs, 15 miles away. We reached the springs just as the sun was disappearing behind the cliffs to the left. Suddenly turned up a gulch and heard someone sing out "Tirteen Aigles this way" and right before us stood Jack, Bonnymont [Bonnemort] and Mackintee (a young fellow the Maj. brought down from Salt Lake City). We were very glad to see Jack and he us. While standing around the fire, Cousins Emma and Nellie came down and greeted us kindly and introduced us to the stranger. (My soul, I have forgotten her name). Bish, Fred and I then adjourned with the ladies to their tent and had quite a pleasant chat. The Maj.'s wife has a Mormon nurse, a young girl. The Maj. and Prof. have gone to Kanab. Prof. came

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"Eight miles from Kanab, known as Eight Mile Spring, where some of the party were camped.

"In vol. XV, p. 210, of this Quarterly, McEntee could not be exactly identified. Subsequent information from the University of Michigan makes it appear that his name was George Otis McEntee, who attended that university from 1867 to 1870 in what was called the Literary Department. He did not graduate. On first registering, September 19, 1867, he gave his age as 18 and the name and address of 'parent or guardian' as T. M. McEntee, Detroit, Michigan. The only further information available is that he died at Plano, California, September, 1897, aged 48. This identification is substantiated by the Powell payrolls in the General Accounting Office at Washington, which give his name as George O. McEntee."
in after dark, said the Maj. would not be in till tomorrow. Shortly after, Capt. Dodd and Jones came riding in from Kanab in a wagon. We have 3 wagons here now. We received a pile of Maj.'s papers and I received a letter from Morris and one from Belle. Fred received a package of cigars, gave me half of them, also some chocolate. Had fresh beef for supper. We sat up late reading papers, &c.

Dec. 6th. Rose early this morning. Found that Andy had left his gun on the trail at one of the places where we had stopped to fix the packs, so he mounted "Gray Billy" and went back after it. He returned at 3 o'clock. Said he could not find it. I called at the tent in the morning to see the folks, found them at breakfast and so postponed my visit. We loaded up one of the wagons, for a party of us are going to Pipe Springs, 30 miles from here tomorrow. The Maj. came in from Kanab at 5:15. Said he was glad to see us and later Jack came in but brought us no mail. In the evening Maj. invited Fred and I to come to the tent and look at the stereos that he has had printed at Salt Lake and New York cities. Some of them are very fine. Cousins Emma and Nellie are very pleasant; I like them. The baby is rather pretty. Capt. Dodds and Bonnymont had a fight in coming down from Salt Lake City. Capt. bit Bonny's finger about off; am afraid there will be trouble between them in the future. Maj. said they had a fearful time in coming through; killed one horse, &c. Cousin Emma has rather a pretty Mormon nurse. The party now numbers 18 including the baby. We have 2 wagons and an ambulance, also about 25 horses. The Maj. and Capt. Dodd intend starting a ranch out here and raise stock. Cousin Emma asked the Maj. why I couldn't stay with his (Maj.’s) party. Have been reading papers, &c. today. We would have started, but Bish and Mac failed to bring the horses up till late. Riley shod a couple of them. The Maj. has picked up all the plug-uglies in Utah. Would not give 50 cents for the whole pack. Jones played the fool around the fire.

Dec. 7th. After breakfast Mac and myself went out hunting. After walking 4 or 5 miles and kicking up a ½ dozen rabbits without getting a shot, returned at noon pretty well tired out. Found the stock up and the wagon hitched up and our party consisting of Prof. and wife, Bish, Mac, Jones, Andy and myself, all ready to start. Dinner ready and soon eaten. Jones and Andy to drive the wagon, the rest of us on horseback, my horse being "Black Frank." Picked out a pair of blankets for myself, a saddle blanket, saddle, bridle and spurs. Had quite a time in getting the team started. Capt. Dodds took them in hand and drove them about a couple of miles, then walked back to camp. I then bade Cousin Emma, Maj., Fred, and the rest good-bye, and then we all started out: Bish, Mac and I riding with
the wagon, Prof., wife and "Fuzz" going on ahead. We had a
very pleasant ride. Made camp about 3 or 4 miles south of
Kanab about dark, unhitched the team, fed the horses wheat,
hobbled them and turned them loose. Pitched a tent for the Prof.
and wife, built a fire of sagebrush, had supper, then a chat around
the fire and then turned in, Bish, Andy, Mac and I sleeping
together in the tent and Jones by himself, the Prof. and wife
inside of their tent.

Dec. 8th. Rose early, gathered sagebrush, went to the
creek ¼ of a mile away for water, then brought up the horses.
Found "Yager," "Roan" and "Gray Billy" had strayed away,
so after breakfast Prof. went to look for a permanent camp, while
Bish and I went to look for the horses. After riding around the
buttes and looking at several herds we soon found them, watered
them at the creek and drove them into camp on the gallop. Found
Jones had gone to Kanab for a few things and mail. Prof. re­tunred
at noon. Jones returned soon after, brought beef and
butter; had a good dinner. Brought some mail but none for
me. After dinner hitched up again, had trouble in starting.
Prof. and wife went across the creek while the rest of us
went with the wagon around by the ford, but it being quick­
sand did not deem it safe to cross, so went on to Kanab.
Saw the wagon safe across the creek and then rode into
Kanab. 'Tis only a small collection of houses and a log
fort. 'Tis situated at the mouth of the cañon. Found Bea­
man camped in a log hut inside the fort. Was surrounded by
a group of the natives. Had been taking a picture of the fort.
After passing the time of day Bish and I went to Lyman Ham­
blin's, made him and his wife a call, then after looking around
awhile started for camp. Found it about 3 miles west and ¼ a
mile from the road. Also found Prof. just boiling over. Gave
Mac and myself a regular lecture on the evils of going to Kanab
without his royal highness' permission, and then he went for
Bish hot and heavy. Results, Bish threatened to leave the exp­
that night. Packed up all his things, &c., after which Prof.
asked him to step up to his tent. About ½ hour afterwards sup­
ner was called; Prof. and wife and Bish came out smiling and as

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Kanab had been established in 1870. E. O. Beaman, who had reached
there November 12, describes it more fully:

The town of Kanab is a Mormon settlement, containing about
forty families, and numbering three hundred souls. At the time of
our visit it was one year old, and was in a thriving condition. The
dwellings are generally made of logs, although a few of the more
pretentious are of adobes—that is, bricks dried in the sun. The village
is surrounded on three sides—north, east, and west—by the Vermillion
Mountains. At the south is a valley extending to the Kanab Moun­
tains, twenty miles distant. * * * * The inhabitants, though poor and
simple in their habits, are friendly and open-hearted.
happy as a clam. Prof. and Cousin were very kind and pleasant to Mac and myself; asked me about all of the family, all of my relations, back to my great grandfathers, &c. Asked Bish after supper how soon he was going to leave. Said "not for awhile yet." We are camped under the side of a hill among a few cedars about a couple of hundred yards from the creek.

**Dec. 9th.** Mac and I hunted the horses, fed and watered them, and after breakfast hitched up. Andy and myself came to camp in the wagon. In crossing the creek the horses stopped to drink, the wagon sank a little ways in the quicksand; could not make the horses pull it out. While we were working away Prof. and wife, Bish and Mac came riding up. Mac put his mule in one of the horse's place and we soon drove into Kanab in triumph. We drove up to where the rations were stored away, put some in the wagon and then drove down to the fort. I am to get a set of chemicals, instruments, &c., to go to work on my own hook. Will stay till Monday afternoon. All had dinner at Beaman's house. Tis built of logs, ground floor, single room, fireplace, thatched with willows and cornstalks, has one window. All the rest except Bish returned to camp in the afternoon. Found my sack and put on a new change of clothes from head to foot. Looked gay. Visitors coming in, had a pleasant time at night, spreading my blankets beneath a roof for the first time since leaving Green River City the 22nd of May last. It seems quite home-like. The fireplace is cheerful, warm and cozy. Bish stayed with us tonight, so Beaman could take his horse tomorrow to see the Maj. at Eight Mile Springs camp.

**Dec. 10th.** Bish and I got breakfast, then Beaman went to the Springs. I went up to the ration house and brought down some dried peaches. Saw George Adair, who afterwards brought down some milk for dinner. At about 10:00 Andy and Mac came in from camp and shortly after Adair came in with the milk, then the 3 went out to get some wine, leaving Bish and I to read. At about noon the 3 came in feeling jolly. Andy laid down and went to sleep. Adair and Mac kept talking, Bish and I got dinner. After dinner went over to see Lyman Hamblin. Showed me some Navajo sashes he had for Fred and myself. I selected mine. They are quite pretty. Had a pleasant visit. Was introduced to several girls, one good-looking. One was a Miss Haight. When I returned found Beaman had come and the boys had gone. During the evening George Adair and 2 or 3 others came in, gassing till 10 o'clock.

**Dec. 11th.** While Beaman fixed my chemicals I cleaned a couple of dozen glasses. Prof. and Jones came with the wagon at 2:30. The Maj. and Riley came riding in. Riley and I went over to Lyman's, stayed a few minutes. On coming back found the Maj. and Beaman looking over the negatives. Maj. said he
wanted me to help Beaman print 500 or 600 pictures to take or send to Washington. After selecting a few they all left us. It will take 10 or 12 days to do the printing, and will have a fine chance to learn the business. After supper Lyman came over and invited us to come over and have a game of cards. Had a pleasant time. Curled up in our blankets at about 10:00.

Dec. 12th. George Adair called this morning on his way to St. George. Sent a note down to camp by him asking Bish to send me my diary and $10. After washing the dishes commenced silvering paper in a dark room we made of blankets. At about noon began to print. After that was over got dinner and supper, then toned and fixed the prints. In the evening Charles Riggs and Lyman coming in, played cards.

Dec. 13th. Silvering, printing, toning and fixing pictures all day. Are making about 50 a day. Mac and Jones up today in the wagon. Mac gave me my diary and $10 that Bish sent me from camp. In the evening gave the $10 to Lyman to get me Indian curiosities and trinkets. The Pa-Utes are expected in shortly. The Maj. has quite a number of things from them here. As I was reading it occurred to me that it was mail day. After stumbling around the streets of Kanab inquiring of every person I met where the P.O. was, and calling at 2 or 3 houses, finally found a little log hut covered with blankets that they called the Kanab P.O. Knocked at the door, asked if the mail had arrived. Said they did not think it would be in till morning. Came down to the fort and learned that it had just come in and had gone up to the P.O. Back I went. Was told that they had sent the exp.'s mail down to Beaman's hotel. On arriving at said hotel found B. disconsolately looking over a pile of papers and letters, but could find none for him. Received one each from Morris and Fanny. Was invited in to Mr. [W. D.] Johnson's to spend the evening. Found them to be very pleasant people. Passed the time in playing euchre. Think that Johnson will join the party next spring and go down with us through the canons. Turned in at 10:30.

Dec. 14th. After breakfast sent a few duds to be washed; silvered paper. Maj. and Riley came in at noon. Maj. and Beaman picked out more negatives to print from, while Riley and myself got dinner, and then in came Jones. After dinner the Maj. told me he wanted me to learn all I could about photography, that he wanted me as head photographer on future expeditions. Wanted me to work carefully and neat, said that carelessness was my only fault. Told me to watch Beaman, &c. Finished toning and fixing pictures. Read during the evening. Jack, who was up today, said that he and Fred would be up to the dance tomorrow night. Maj. cabbaged Beaman's pen and ink, much to his (Beaman's) sorrow and wrath.
Dec. 15th. After breakfast silvered paper. Bish came up today to make plumb bobs and leveling rods. Took him all day. He got dinner while Beaman and I finished the pictures. Lyman came over and invited us to supper. Had a nice meal. I hid Cap's horse behind the fort. It put an "astonisher" on Cap. In the evening Andy, Mac, and Riley came in to go to the dance. Of course they had to "get something" to feel good on. Mrs. Brown brought in my clothes and left a dance ticket, but as I did not dance, did not need it, so returned it. Gave her my shirts to mend. At about 8:00 p.m. we all went to the hoedown in the schoolhouse. Last evening I forgot to say, Maj. introduced me to Bishop [Amos Milton] Musser. At night Beaman and I went to hear him preach. Said preaching consisted of the persecutions of the Mormons and that most unrighteous judge, Judge [James B.] McKean at Salt Lake—that he most cordially hated him and the government. Said it might be necessary for some of them to lay down their lives for their religion, &c. Spent most of the time playing cards with Johnson. Dance out at 2:00. All went to camp except Bish. Stayed with us and he slept cold.

Dec. 16th. Last night sent a short note to Morris and some views, 3 to Ida Richmond, 2 to Allie Castle, one to Mark Castle, 2 to Charles Stutenroth, and 3 to Frank. There is a pet fawn around the fort, a pretty, graceful thing. Comes to our door, pulls the latch string and pushed it open and looks wistfully at the piece of bread that is waiting for it. Would give a good deal to have Nannie at home. This morning just after I got through silvering paper, Prof. and wife came in on horseback. Showed Cousin Nellie Fanny's letter. She remarked that "Fanny was a good sister to me." Shortly afterwards the Maj., Cousin Emma, nurse, baby and Jack came in the ambulance. Cousin Emma very pleasant. Cousin Emma and Nellie took dinner at Mr. Johnson's next door. Maj., Prof., Bish and Jack took dinner with us. They all left at 3:30. Cousins seemed to be anxious to have me with them in camp. Jack gave me a note from Fred and some letters to mail. Expect Fred will be up in the morning.

Dec. 17th. Sunday morning, bright, lovely, pleasant. After breakfast put on my Sunday-go-to-meeting clothes, went up to the P.O. to mail Fred's letters, found the P.M. dressing and handed said letters through a crack in the logs. Have been looking for Fred. Cousin Nellie and Prof. said they would be in to church, but no one coming in, Beaman and I went. Heard a sermon on the persecutions and missions of the Mormons. On returning found Jones and Riley in quiet possession of the cabin. Said that Prof. and wife did not feel much like coming. Soon a couple of visitors came in; one wanted to know if we did any sketching; said he was learning to draw and would like information. While we were talking who should ride up but Fred
himself; was very glad to see him. We referred the young fellow to Fred. Fred told him all he knew; he (visitor) showed us some drawings that were very good. Riley went back to camp before dinner. Jones took dinner at Johnson's. I went up to the ration house and brought down some tea and coffee. Beaman and I prepared dinner. After it was eaten showed Fred my Navajo things, then took him over to Lyman's, then went with him up to the ration house to get some rice for Cousin Emma. He and Jones left for their different camps at about 5:00 p.m. Fred said that Bonny's finger was getting worse and feared that there would be trouble between them. In the evening Chas. Riggs and another fellow called; showed them the pictures and told them about our cañon trips.

Dec. 18th. Bish came up this morning to do some work on the instruments. Prof. is measuring a Base Line 15 miles long to determine the boundary between Arizona and Utah and to establish a Base Line for topographical work next summer. Have been printing all day. Bish took dinner at Lyman's. In the afternoon Prof. and Maj. came in, then Riley, Jones and Mac to get the wagon brake fixed and to take down some rations. Went up to the ration house with Prof. and Maj. Took an inventory of the Maj.'s Indian curiosities: rabbit net, pottery, bow and arrows, Moquis clothing, &c. Maj. told me he wanted me to take an inventory of everything in the cabin and to box up the Indian traps, &c., when I had time. When I came back to the fort, chopped up and packed in an armful of wood for the best looking girl in Kanab. All left us towards evening except Bish. After he finished his work we paid Lyman a short visit. Bish then went in to Johnson's while I wrote my diary. Shortly Johnson came in and wanted Beaman and I to go in and have a game of cards. Beaman having some writing to do declined, but I accepted the invitation. Had a gay time. Left at 10:15: Johnson being hungry came into our cabin and took a lunch. Bish then mounted his horse and left us.

Dec. 19th. It being cloudy today, went up to pack the things. Had a box made. Took inventory of everything and at noon came down to the fort. Found a dozen Navajos in town, had come in to trade blankets. Two or three I have met before at the Crossing of the Fathers or at the Pahria. Also learned that our caches had been opened at the Pahria by coyotes and flour and clothing strewn around for miles. Learned that the Maj. was moving his camp from Eight Mile Springs to the Gap, 2 miles below our camp, and that Prof.'s camp would move there too. So the party are again united. Went back after the box and then packed the things into it. By the time I was through 'twas dark. Came down to the fort and found that the mail was just in. Beaman had eaten his supper; ate mine alone while Beaman
went up after the mail. Received a letter from Morris, also one of my Chicago letters. Do not think it as good as the others. There was a letter for the Maj., and one for Capt. Bishop from Morris. Wrote till late in my diary; have been behind with it for over 10 or 12 days.

**Dec. 20th.** Silvered paper all morning. Played ball at noon with the school boys. In the afternoon Beaman and I printed, toned and fixed pictures. Jones and Mac came in to grind axes, and then Maj. and Prof. Maj. looked at the views. Beaman sent for more chemicals. Maj. is going to have some transparencies made. Says he may go to Washington soon and wants to show them in his lectures. Jacob Hamblin has arrived, brought in some mail, but none for me. Maj., Prof., Jones and Mac left at 4:00 p.m. A new family has just moved into one of the empty houses here in the fort. 'Tis quite amusing to hear the comments of the children on the pictures while we are printing them. Such expressions as "by heck," "Je[e]whiz," "Je[e] whitticer just look at them," &c. The Mormons seem to raise children on quantity not quality plan—children of all sizes, conditions, ages and sexes. There are crying babies on all sides of us with dogs and chickens mixed in promiscuously. Jones brought us some fresh beef today. I went to Mrs. Riggs' and bought a pound of good butter. After supper showed Johnson my Chicago letter; pronounced it excellent. Beaman has gone over there for the evening while I have been writing my diary up to date.

**Dec. 21st.** After breakfast went up to see the Navajos at the bishop's; were eating; shook hands with some of them. One of the old men we met at the Crossing had some very pretty blankets but wanted horses for them. They made several trades for animals. They left during the forenoon. Got some salt at a house above Jacob's; ran my face for it. Brought down a little pailful of molasses from the ration house. Met Mr. Hamblin in the afternoon. Went up and finished packing the Maj.'s goods and brought down some flour and candles. While there Jacob had a long talk with me about Mormondom, xtolling its virtues, &c., &c. Told me about the life of Joseph [Smith] and showed me a Mormon bible [Book of Mormon]. In the evening went over to Lyman's, had a pleasant evening; thought my letter was gay. It has been blowing a perfect gale all day long; the air full of sand and everything looking so dreary, desolate, dark and gloomy.

**Dec. 22nd.** Maj., Capt. Dodds, Riley and a John Stewart started for the Buckskin this morning from camp. Have gone to put up some monuments and hunt a pass down to the Colorado. Have taken 2 weeks' provisions. Silvered paper, printed, toned and fixed pictures today, the weather being fair. Beaman bought a keg for $3.00 to hold water to work with. Jacob paid us a visit;
I like him. Prof., Cousin Nellie, and Bish came up from camp in the afternoon. Cousin Nellie invited Beaman and myself down to a Christmas dinner. Said they would send for us. Bish brought up my ball; had a game of catch with some of the boys. It made a few sore fingers. Prof. hired Joe Mangom [Mangum] to herd horses at $20.00 per month. Prof., Nellie and Bish left just before dark. Another dance tonight. The managers sent invitations down to camp but none of the boys came up. Beaman trimmed pictures while I wrote a letter to Morris, sending pictures. At about 10½ o'clock Beaman and I went in. Some of us came in and parched some corn. Went to bed pretty late.

Dec. 23rd. The day set in dark and cloudy and of course no work on pictures. Mailed my letter to Morris. Had a little game of catch. Johnson wanted me to go down to camp with him and as I wanted a change we started out at about 9½ o'clock. Before we had gone far it commenced to storm, a sort of drizzling rain or sleet, but still we pressed on talking of different things, &c. Did not know exactly where the camp was. Picked up a few shells along the creek's bank. When we were in the Gap and was anxiously looking for camp we met Bish coming up with the ambulance with "Fuzz." A short distance behind, Fred was riding horseback. As we were only about half way to camp, concluded to return to Kanab. Learned that Jones and Mac had gone to Pipe Springs to put up a monument. Bish, Fred and Prof. had come out to work the instruments on the line (instruments about a mile and a half this side of camp) but the weather being so bad, had to give it up. Prof. rode back to camp while Bish and Fred came on to Kanab and drove home; had a merry time of it. Drove into Kanab in style—put an astonisher on the natives. Fred baked bread, I boiled some ham. Bish cut my hair. Beaman is sick. Bish did not eat dinner with us. Bish fixed the cross bar to the tongue of the ambulance out in the rain. [Ammon] Tenney (one of the Maj.'s men last year) brought in some blankets to sell or trade. Only had one blanket that suited me. Said he did not want to sell it unless he had a big price for it. He was down to camp the other day. Sold Fred a couple of blankets and a couple of pair of moccasins. After dinner Fred went back. Jack sent up for some wine; bought it at Johnson's and sent it down at night by Bish and Joe Mangom. It has been raining all day long and the night has set in dark and stormy. Bish and Joe will have a sweet ride home. Spent the evening at Lyman's. They told us that Joe was not very clever.

*Pipe Spring was 30 miles southwest of Kanab. Bishop Anson P. Winsor was then building a stone house afterward known as Winsor Castle. The spring, house and grounds are now included in Pipe Spring National Monument. See Dr. Gregory's note, p. 107.*
Dec. 24th. Sunday has set in dark, gloomy, dreary and wet. Last night the water came in under the door sill and formed a pool of dirty water under my bed. We bailed out and built a dam in front of the cabin. One of the houses across the way had its roof caved in. Lyman’s and the bishop’s houses came near washing away. I am feeling perfectly miserable and unhappy. Would give anything if I could spend the holidays at the dear old home. In the afternoon Jacob Hamblin and Tenney came in; gave us some interesting accounts of the Navajos and Moquis. Shortly the door opened and a queer looking Indian came in, barefooted and in rags. He accompanied the Maj. last year as interpreter. They call him “Brick.” He belongs to the Paiutes. After sitting awhile, went out. The bishop then came in, staid a short time; did not have church on account of the rain. After supper Beaman and I waded through the mud up to Jacob’s to get a fresh lot of hay for our beds. Beaman spent the evening in at Johnson’s and I spent it watching the dying embers that smoldered in the fireplace, calling up the faces of loved ones far away. Finally made the bed without waiting for Beaman and was soon asleep.

Dec. 25th. Was awakened by firing of guns and pistols and realized with mingled feelings of pleasure and pain that it was again Christmas. I wafted a Merry Christmas and a Happy New Year homeward. While washing near the door a squad (?) was fired off in my face by being poked through a crack. Came very near singeing my moustache. Just as I had finished my breakfast Charlie Riggs and others came in and we tried to get up a game of ball; but as everyone wanted their own way it broke up. It had been drizzling nearly all morning but at about 10 o’clock the clouds cleared away and the sun shone at intervals through the rifts. Watched a game of quoits, then went into Lyman’s and had a game of cards. Mrs. Hamblin gave me an apple for a Christmas gift. While there Jack drove up with the ambulance and an invitation for Beaman and myself to join the folks at camp at a Christmas dinner. Mr. and Mrs. Johnson intended going if Jack had come sooner. He did not get in till about 1 o’clock; we had all given him up. Beaman and I invited to a Christmas dinner and some egg nog at Johnson’s. Beaman accepted but I went to camp. Jack bought some wine. Were about an hour in going down; found camp on the bank of the Creek about a couple of miles through the Gap. Found the boys all well and enjoying a big tent with a stove in it; Prof. and Cousin Nellie in a smaller one and Cousin Emma the other large one. They greeted me kindly. The baby was fast asleep in a basket cradle. Dinner was almost ready. Had a pleasant chat with Cousin Nellie. When the cry of “soup” was heard, helped Cousin Emma carry in the baby to the eating tent. Had a very
good dinner: ham, milk, sardines, plum pudding, coffee, bread-butter, &c., &c. After dinner Cousin Emma showed me a picture of her sister, Nettie. Prof., Cousins Emma and Nellie went out for a ride. Helped Cousin Nellie on her horse and then bade them a pleasant voyage. Bish and Joe Mangom started out for town. About an hour afterwards Fred, Mac, Jack, Andy, myself (mounted on a mule) started for Kanab. We met Prof. and the ladies returning. Before we had got through the Gap the moon came out brightly. Mac had a side ache and fell behind, but caught up with us soon after. Had a splendid gallop over the sage-covered plain. We were all gay and in good spirits. The soft moonlight added witchery to the scene and we rode into Kanab in triumph. Found Bish, Joe and Beaman enjoying themselves and waiting for the dance to open. We then went in and watched them. I introduced Mac to a Miss Haight, a good-looking girl. He asked her to dance with him but “got the mitten.” He tried again and again with the same result. Wine was the cause. Fred, Bish, Andy, Jack and I merely looked on. Beaman danced. Jack received a mitten. I had a pleasant chat with Miss Haight and Mrs. Hamblin. The boys being disgusted with mittens, dances, and Kanab, mounted their animals and rode back to camp, leading my mule. Bish as usual was the last one to start and had to go it alone. I went back to the dance, watched them awhile longer and then went to bed. And thusly have I spent Christmas out in Mormondom—vastly different from last year. Where will I spend it in ’72? I pray God it may be in Naperville in the family circle.

Dec. 26th. Commenced silvering before breakfast and resumed after it was over. Silvered, printed, toned and fixed 80 pieces today. The sun not very bright. Went up to the ration house and got some sugar. Mrs. Hamblin kindly gave me some potatoes. Jacob has gone to Long Valley. In the afternoon Jones came in after a few things. Soon went back. Said that Prof. and some of the others were working a short distance out of Kanab. Mail not in today on account of Christmas. In the evening got some butter of Mrs. Riggs and then got supper. Boiled the potatoes, fried the pork and made the tea. The “sheep” (fawn) made a knot hole of Lyman’s window sash this evening. Beautiful moonlight evenings we are having now. Nephi Johnson in tonight. Turned in rather early.

Dec. 27th. The day has set in cloudy, a bad day for pictures. Silvered 40 pieces. Cousin Nellie rode up to the door at noon after the mail but it had not arrived yet. Said Prof. and others were working about a mile and a half from Kanab and as she had nothing else to do had come up. She went right back, said she would be up again in the morning. Had a lunch for dinner. We only get 2 meals a day now. Have been read-
ing, and writing my diary; have neglected it for the last week but now am up to date. Fed the fawn some bread. Bish rode up on a mule, brought up some things to be fixed; took supper with us, then went into Johnson's. Beaman brought in the mail. Received one letter from Givler. Am disappointed—no letters, no papers. Looked at Fred's Harper's. Bish went back at 8:00 p.m. Beaman and Steward talking about Indians. We have plenty of chances to give away things, especially tea, coffee and sugar. Someone is getting sick and wants "just enough for a dram," &c. Have got the blues.

Dec. 28th. Today has set in dark, stormy and cloudy, a drizzling rain and a very uncomfortable time. Did not silver; Fred to print the few remaining pieces. At about 9½ o'clock Prof., Maj., Bish, Fred and Jones rode up. Bish brought up a couple of magazines I sent for down to camp. They all went back after dinner. Read magazines. Stormy all day long. All the cabins in the fort leaking—ours among the rest. Along towards evening went out and helped a Mr. Johnson to dig a ditch to drain off the water that threatened to flood us. We succeeded. In the evening had to pile everything of value in the middle of the cabin to prevent them from getting wet. Put some glass to soak. Turned in rather early.

Dec. 29th. Stormed all night and storming this morning. All around the fort one can see spadeful after spadeful of dirt flying to the tops of the cabins. We had to throw some on ours. Have been reading nearly all day long. In the morning Jack and Jones drove up in their ambulance after a few things. Had a good notion to go back to camp with them. Will be fearfully glad when we get through printing. Am getting sick of Kanab. Jack bought a quart of wine, brought it in; 'tis most abominable stuff. They went back to camp about noon. Beaman had some glasses out for cutting out pictures. Has been cutting them out all afternoon and in the evening mounted them. They look fine through a ster[e]oscope. Johnson borrowed Beaman's cards to play with but did not invite us in. Stormy all day. Mrs. Hamblin made us a call to borrow some papers to read. Adobes must suffer this wet weather.

Dec. 30th. It has stopped raining and the sun is trying to shine through a wilderness of clouds. After breakfast commenced silvering, printing, &c. At noon went up to the ration house, brought down some syrup, candles, and raisins. Bought some butter at Mrs. Riggs. Shortly the boys came in, said it was too windy to work at the Base Line (Mac, Fred and Bish). Bish mended a frying pan. Mac and I played catch. A couple of Pah-Utes came in; gave them some tobacco. Frank, an Indian that the Maj. had with him last year, said that the tribe would be in shortly. They are very dirty. Johnson took supper with
us tonight. Invited us over to his cabin; did not go however. Have been writing my diary, Beaman his. Weather is growing colder. Frank wants to hire out to the Maj. Julia brought Beaman in a pailful of buttermilk.

Dec. 31st. It being a pleasant day, silvered paper. Beaman tried to get some ammonia but could not. Went up to the ration house to get some flour and while there the Maj.’s wife, Vina\textsuperscript{*} and Jack drove up in the ambulance. Staid a short time and then returned to camp. In the afternoon Beaman went up to Jacob’s while I and Thorp went over to Lyman’s. Found Mr. and Mrs. Johnson there. Spent a pleasant evening and returned at 9:00 p.m.

Jan. 1st, 1872. A happy New Year to all at home. After breakfast Beaman started for camp. I finished the pictures. Wrote a letter to Kate Richmond. Bonny and Fred rode up after the gradientor [gradienter]. Lyman came in and we had a game of cards. Made me a present of a Navajo blanket. Told me about the scrape he and Willie Johnson were in last night. Some of the boys pulled off the “sheep’s” tail. Beaman bought a gallon of wine last night, presented some to friends this morning. In the afternoon Lyman came over and invited me to dinner, and to make said dinner ornamental as well as useful, sent over some corn starch and mustard. Enclosed some views in Kate’s letter and then went to dinner. ’Twas a gay one. After dinner played cards, talked, &c. At dark Beaman, Joe Mangum and Jones came in. During the evening the P.M. came in and drank some wine and later we all went in to the dance. Met Mr. [Isaac] Haight who had just come in from the Pahria. Told us about our caches there. At intermission went up with Charlie Riggs and had supper with him. The dance broke up at 3 o’clock in the morning. Jones and Joe went to camp while Beaman and I went to bed and slept till 8 o’clock next morning. I am getting fearfully sick of this kind of life and if I have a good chance will go to the mines on the Colorado.

Jan. 2nd. Today finished printing pictures. At noon Maj. and Cousin Nellie came up from camp. While they were looking at the pictures I prepared dinner of which we all partook. Told Maj. I was through my work here. He told me all right, to come on down to camp but I could not “sav[y]” without a horse. We then went up to the ration house after a few things. Spent the evening at Lyman’s. A dance for the young folks tonight. Turned in at 10:00.

Jan. 3rd. Went up to the ration house and finished boxing the Maj.’s things to send to Washington. Bought a small Navajo

\*“Vina” presumably was Mrs. Powell’s Mormon nurse, referred to in Clem’s journal entry for December 6.
blanket of Jacob for $3.50. At noon Prof. and Dodds rode up in a wagon and at night I packed up my things, put them in the wagon and started for camp. Did not get there till nearly supper time. Went up to Cousin Nellie’s tent for awhile. Saw Cousin Emma and the baby. Spent the evening in the tent with the boys. No mail for me today. I am disappointed.

Jan. 4th. Fixed up my things this morning and got ready for taking pictures, but the chemicals would not work and the instruments are not worth a cent and my whole outfit is nothing but Beaman’s cast-off things. Some Indians came into camp begging and trading. Cousin Nellie traded for a bow and arrow, 6c. Tried to take some pictures but ’twas no go—nothing would work. Spent the evening reading. Boys came in from the line at sunset. Turned in at 9:00.

Jan. 5th. This morning went to Kanab with Capt. Dodds in the wagon to get some chemicals, &c. Had a pretty cold ride. Found Beaman all O.K. Got my chemicals. Waited all day for some things. Took dinner at Jacob’s. Went in and saw Lyman. Got my shoe mended. Bish and Fred came in in the evening. Bish staid all night to write letters while Beaman rode down to camp. Dodds and I got in after dark and supper. Spent evening as usual.

Jan. 6th. Set up the dark tent and got ready to take the baby’s picture, but it would not keep still and ’twas no go. Johnson, Riggs and Steward drove down; took their pictures. Riggs and Steward hired out to the Maj. to work on the line; went back in the evening. Took some pictures of the bluffs around camp. Plenty of Indians in camp—dirty, filthy and begging. In the evening Maj., Prof., Jack and I went over to their camp 5 miles away to see the dance, &c. Jack lost a spur. Spent part of the evening with Cousin Nellie; she is very pleasant and kind.

Jan. 7th. Went up to Cousin Emma’s tent. Looked at the views, &c. Lyman and his wife drove up and spent the day with us. Tried to take an instantaneous view of the baby but the tubes would not move. Spent the day in reading. I have about made up my mind to go with Riley to the Colorado and to go mining. ’Tis better than staying.

Jan. 8th. Went to Kanab after a set of instruments for Prof. on “Yager.” Beaman has gone to photograph the Pah-Utes. Fred has gone to sketch them. Saw Johnson and Lyman. Got back before dinner. After dinner Cousin Nellie brought me in a book to read. Maj. and Fred returned by dark. Had a talk with Riley about mining. He offered me a good thing; will be ready to start in about a month. If things don’t change within that time will leave the expedition and go to mining. I did not
come out here to be anybody's fool. Cousin Nellie gave me some molasses candy she had been making and gave me a pillow. Helped the Maj. and Jack to pack fossils in the evening at their tent. Spent the evening in reading, talking and playing cards. Told the Maj. I had nothing decent to take pictures with.

Jan. 9th. Have been writing my diary up since December 30th, 1871—has kept me busy all the morning. Fred traded for a string of rabbit skins and gave them to me. I traded off his mouth organ for a rabbit skin robe for him. After dinner Cousin Nellie asked me to go to Kanab with her and so I went across the creek and drove up the animals and we were soon on our way. She told me that Prof. and the Maj. were disgusted with the way that Capt. Bishop was acting, &c., &c. Said that Fanny was a noble-hearted sister to Morris and me. We found Prof. at Kanab, and we three men went over to the Pah-Ute camp a mile or more away. Found them sitting around their camp fires, ragged, naked and dirty. Talked with Frank awhile, then rode home. Had a fine ride over the bottom. Reached camp after dark. Spent the evening in reading, &c.

Jan. 10th. Woke up this morning and found a light fall of snow but during the forenoon the sun came out and 'twas gone. Indians in camp with different articles to trade but they are so lousy am afraid to touch any of their things. In the afternoon finished some pictures and took one or two more. In the evening the Maj. came in from Kanab bringing the mail. I received 2 good long letters from Morris and one from Fanny. Oh, but they are treasures. They have given me new life and energy. I will strive to be worthy of their regard and love. I went off to my tent and read them over and over by myself. Morris enclosed one of my Chicago letters. 'Tis far better than the other one. He has a queer idea about this country and what we are doing. Will write and give him all the information possible. Turned in at 9:30.

Jan. 11th. Showed the Maj. and folks the Chicago letter and gave him one of Morris' letters. He said he was going to write to Morris. Gave Cousin Nellie, Fanny's letter; praised it highly. Maj. has gone over to the Paiute camp, will be gone 2 or 3 days. Prof. and Nellie have gone to Kanab to spend the day. Returned at 3:00 p.m. Cleaned glass nearly all forenoon. Riley packed up and left us this morning. We all wished him good luck. Have been writing this with a little piece of broken lead. Read. Spent the evening as usual.

Jan. 12th. Tried picture making; did not succeed very well. Read a little. In the afternoon Prof., Cousin Nellie and Emma went to Kanab to the Leap Year party. Jones did not go. Jack returned with the wagon after dark. Helped him to unhitch.
Wrote a letter to Morris yesterday and sent it up by Bish. Indians in camp as usual. Jones and Mac played poker. Mac lost 6 or 7 dollars.

**Jan. 13th.** Went up to Cousin Nellie's tent and read. Had some molasses candy. Took one or two pictures. Fred tried his hand at the business and made a couple. He gave a package of paint to an Indian for a rope and gave it to me. Frank in camp nearly all day, was waiting to see "Coperadis." Jack went up to Kanab after the folks this morning with the wagon. Returned at about 4:00 p.m. Beaman and Mrs. Johnson came with them to spend Sunday. The party passed off pleasantly. Beaman brought down his instruments to take the baby's picture. Maj. has returned; has been learning the Paiute language and is getting along nicely.

**Jan. 14th.** Read "Pink and White Tyranny" today. After trying several plates Beaman succeeded in taking a fair picture of the baby. Then tried to take Mac's and failed. Johnson and Riggs came into camp and staid all day. Gave them their pictures. Prof. spoke to me about going with him on a trip to the Buckskin. Told him I would like to go. In the afternoon Joe hitched up a wagon and took Mrs. Johnson, Willie Johnson, Beaman and myself to Kanab. I went up to get my bath filtered and to get some collodion, &c. Found Jones and Bonny at Jacob's. Got inventory of the goods I had packed for the Maj. Jones bought a shotgun of Jacob, 'twas nothing extra. The ride to camp I enjoyed—a pleasant evening and at dusk. We are having fine winter weather—just like an Illinois October. The Maj. spent the evening at the tent with us talking geology. Turned in at 9:00 p.m.

**Jan. 15th.** Prof., Fred, Jones and Mac started on a 10 days' trip to the Buckskin. Prof. proposed that Bonny and I should go on a trip down the Kanab Wash. It struck both of us favorably. We then spoke to the Maj. about it. He was pleased with the idea; told us to get ready at once and take a month or 6 weeks' rations with us. I then hitched up a team and drove to Kanab with Cousin Emma and the baby. Had a pleasant time. Got 60 glass, some chemicals, flour, peaches, "rice" (wheat), salt, &c. The Maj. was at Hatch's [Ira Hatch] (the Indian interpreter) with a lot of Pah-Utes. I borrowed a shovel of the bishop, a frying pan of Lyman. Bought a couple of Navajo blankets of Jacob. The Maj. gave him (Jacob) a check of $15.00 for them as I had no money. Maj. and Prof. (who was there getting rations) wished me good luck, &c. Maj. will stay at Kanab for a few days, so I took his horse back to camp. Cabbaged Fred's

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Kapurats ("one arm" or "no arm") was the Paiute name for Major Powell.
spurs. Reached camp at 2:30 p.m. Cousin Emma and I had dinner at her tent. Showed my blankets to Cousin Nellie. She thought they were handsome. Spent the afternoon in packing up and getting ready for the trip. At supper time Prof. came in. Had forgotten a few things and wanted Fred’s “rice.” In the evening went to Cousin Nellie’s tent. Had a pleasant time. She and Prof. wished me success, &c. Wrote a short letter to Morris; told him if I was not successful would return home. My outfit is nothing extra—Beaman’s cast-off things and the Maj.’s old tubes, though the chemicals are all right. I am bound to do my level best but I am determined to be Beaman’s assistant no longer and if I fail will return home at once. The Maj. thinks he can do anything with us because he has us out here. Wrote a short note to Cousin Lou and sent 4 pictures. Enclosed 4 in M’s letter for my sisters.

Jan. 16th. Up early this morning and making preparations for the start. When the horses were driven up we picked out the 2 blacks for riding animals and “Roan” and “Yager” for pack animals. Prof. started out for Eight Mile Spring with another pack horse. We were soon ready and bidding good-bye to each and all (Indians included); started on our journey, Bonny leading, the pack horses following and I bringing up the rear. Weather pleasant. Our way led over the bottom till we struck the entrance of the cañon. We soon found the Maj.’s trail and followed it but could find no water. At about 4:00 in the afternoon we found a little water under a cliff and concluded to camp for the night. We unpacked, turned the horses loose, built a fire of sagebrush, boiled some meat and soon had supper. After supper had a smoke and talk around the camp-fire and then turned in under our blankets. The horses showing a disposition to return to camp, we got up, drove them back to camp and then hobbled them and then went to sleep.

Jan. 17th. Up at sunrise. After breakfast had to take the back track for a mile or more after the horses. Soon found them however, drove them up to camp, packed them and went our way rejoicing. The cañon walls growing higher, about 1500 feet high, and reminds one of the cañons on the river. We had a rough time of it, the trail being bad and ever anon we had to force our way through the dense willows and again over some steep rocky point where a single misstep would send horse and  

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*At the time of Clem’s return in February Bishop wrote that “Clem did an ungentlemanly trick in carrying off Fred’s spurs and all the time stoutly denying having any knowledge of them. . . . Fred will not forget this soon and I do not blame him any for it. Only that I chanced to have an extra spur Fred would have been minus a spur of any kind.”

*Clem had been commissioned to travel to the Colorado through Kanab Wash to make photographs. George Riley was already on the river prospecting for gold. His report started a small gold rush the following year.}
rider 100 feet below among the rocks. Late in the afternoon we struck running water and at half after 4:00 came to a place resembling Bow Knot Bend on Green River and went into camp. I do the cooking on account of Bonny's finger. Built a fire of sagebrush and turned in early, for the nights are cold.

Jan. 18th. Concluded to stop here for a day or two and try picture making, so after breakfast was over I put up my dark tent and went to work, but 'twas no go. Finally concluded it was the water. Fixed and refixed my chemicals, filtered them, sunned my bath, &c., &c. By that time 'twas dark. Bonny found some fossils among the limestone that comprise the walls. Have been feeling pretty blue. Bonney's finger is troubling him. We only had 2 meals as both of us were busy and did not care for dinner. I got supper—fried meat, baked bread, made coffee and gravy. After supper was discussed, pipes were produced. Each of us were [was] thinking; I of the dear loved ones far away. Oh, how I wished I could be with them tonight. Will the time never come when I am to return home—the dear old home at Naperville.

Jan. 19th. We did not get up very early this morning. Spent a cold time of it during the night. The wind moaned through the cañon or whistled around some tall cliff and threatened a storm. It passed over and the moon came out brightly. After breakfast once more tried my chemicals and though I worked hard all day long only took 4, and they nothing extra. There is something the matter that I can't explain. I think it is the water. While sitting around the fire after supper we concluded to start for the Colorado River and then work back from there. I feel bitterly disappointed at my non-success, but if it is a possible thing to take pictures am bound to do so. Perhaps a change of water may work better. Built a big fire, around which we sat till 8:00 p.m.

Jan. 20th. After packing and breakfast was over with, started for the Colorado River. Had not gone far before Bonny's horse sprained its ankle among the rocks compelling him (B.) to walk. I packed his shotgun for him. The creek of water soon sank into the ground. The scenery is very fine. I wish to Heaven my photography would work. The cañon walls are growing narrower and higher, now stretching up to 2500 feet. Nothing of importance. The trail is difficult and rocky. "Yager" would make a saint swear. We are both feeling blue, intensely so, I about my pictures and Bonny about his horse. It may be so that it can't travel in the morning. We soon struck Riley's trail and knew that he was at the Colorado. We found a little pool of water—enough to fill our canteens. We are compelled to make a dry camp. Traveled till sundown and turned in early.
Jan. 21st. Passed a cold, disagreeable night. Found the horses near camp, Bonny’s horse very lame. After breakfast packed up once more, started on our way, Bonny leading his horse and I packing his gun. The trail rough and traveling slow. At about noon we came to a small pocket of water from which horse and man drank their fill, and about an hour afterwards struck running water again. The scenery now is really fine—’tis grand. Narrow canyon walls twisting in every direction. Rocks of grotesque form and shape lie scattered around; here and there a solitary column. Height of the walls over 3000 feet high. Soon we came to a beautiful spring that comes from the rock through a bed of ferns and mosses, and as it drips from that forms a perpetual shower beneath. It reminds one of a huge watering pot. We are compelled to wade the creek at times, and again lead the horses over some dangerous place. ‘Tis the blessed Sabbath day; I feel lonely and disappointed. What wouldn’t I give to be spending today at home. About 5:00 p.m. camped for the night in a small bend, plenty of grass, wood and water. Soon had supper ready and eaten. Gathered driftwood and built a cheerful fire. Smoked our pipes and talked till bed time.

Jan. 22nd. Started out at 8:00 a.m. The trail is now so bad that at a great many places [we] are compelled to lead our horses over one by one. Walked ourselves nearly all day, at times wading the creek. The scenery growing finer—’tis really magnificent. We are in the Grand Canyon of the Colorado. Two of the horses bruised themselves by slipping on the rocks. In the afternoon came to where Riley had put up some bars to keep the stock from leaving and we knew that we were near the Colorado. Soon after, came up to 5 horses and a little later reached the river. Found Riley’s saddles, &c., up in a tree and found where they had killed a beef and where they had jerked it. We soon pitched camp and while I got supper Bonny went down to where Riley, Steward [Stewart] and Stevenson were working about ½ a mile below camp. They were washing for gold with which the river abounds. Bonny soon returned bringing a piece of jerked beef. After supper took a good square look at the Colorado. There is a big rapid here ½ a mile long. It will be a “heap portage” next season. The rocks that compose the talus are glassy in appearance and very hard. Went to bed at about 8 o’clock.

Jan. 23rd. While eating breakfast this morning Riley came in to see us. He and Bonny will take 2 days’ trip tomorrow up the river to prospect for gold, while I will see what I can do at the pictures. In the forenoon cleaned some glass. Bonny went fishing but was not successful. In the afternoon tried my chemicals; took one fair picture and that was all. Something
wrong somewhere as the rest were no go. In the evening Bonny and I went down to Riley's camp among the rocks. We tried our skill in throwing across the river, &c. They haven't got things in running order yet. Steward has mashed his toe; he returned with us to our camp and begged for some bacon. We gave him some; will give us jerked beef in exchange. Bonny is having a wretched time with his finger.

Jan. 24th. On waking up this morning found it snowing; a cold disagreeable time we had in getting breakfast. After that important job was over, Bonny went after the horses. While he was gone Riley came in. Bonny and Riley concluded not to start till tomorrow on account of the storm. Bonny and I then put up the wagon cover and put our bed and traps into it. Read till dinner time. Baked 3 or 4 loaves of bread. After dinner made some fresh developer and filtered my bath. Wrote my diary and read a little. Bonny and I gave Riley our peaches as we had nothing to cook them in, then went down to Riley's camp, staid there awhile, then returned to supper. Gave Riley some of my potash to fix his rocker with. Bonny and I gathered some wood for tomorrow morning's fire.

Jan. 25th. On waking found that the storm had passed away but 'twas bitter cold. Got up and got breakfast. Soon Riley came and he and Bonny started up the river. Have written my diary up to date. Have been working at pictures all day long but my bath will not work. Am fully satisfied that Beaman has tampered with it. Have done everything in my power to make it work but 'tis of no use. The expedition is a "bilk." I am feeling sweetly about it. Took the things back to camp, got my supper and then went down to the other camp. Found that Joe and Ed had gone. After waiting awhile saw them coming from down the river. Said they had been down to the dark cañon and could go no farther. I am feeling badly. The weather is raw and chilly. The Maj. will be disappointed. Played cards to pass time away.

Jan. 26th. Slept in Riley's bed last evening; spent a miserable night. Was thinking or dreaming about pictures all night long; was glad when the day at last appeared. Joe got a good breakfast. Joe went back with me to our camp, gave him some alcohol for his foot and some cyanide to work his rocker. Their nitric acid they had used up. Read nearly all forenoon, did not get dinner, did not feel hungry. In the afternoon packed up my chemicals and then went up the gulch and drove up the horses to camp. At about 3 o'clock Bonny and Riley came in. Had gone up the river as far as possible, went up to the southern bend. We then got dinner and then went down to the other camp. Saw how they wash for gold. We held a council of war.
Bonny and I decided to start for camp Sunday morning. We then went back, made a cup of coffee and went to bed.

Jan. 27th. This morning we decided to give the pictures one more good trial, so I unpacked, set up the tent. But 'twas of no earthly use; the bath would not work. After trying ½ a dozen plates gave it up and once more repacked. Joe came down after some rawhide to fasten together a raft; said that they were going to cross the river. Bonny and I went down to see them, found them at dinner and of course joined them. Had peaches for dessert. After dinner they constructed a raft, bound it together with ropes and rawhide and after some hard labor launched it. The thing proved so unwieldy that they could do nothing with it. So after paddling about for some little time gave up the idea after getting themselves wet, and took the raft to pieces. While sitting around the camp-fire drying they decided to go out with us tomorrow morning. Bonny and I then returned to camp.

Jan. 28th. After breakfast I packed up while Bonny went after the horses; drove them all up. The other boys then came up and by the time we were packed up and ready to start 'twas noon. Joe took the lead and the rest of us followed, driving the pack animals. The trail is very rough and we will have to work it to get out. It winds over rocks and precipices, now through the bed of the creek and again through a thicket of mesquit[e]. Riley and Ed stopped to work the trail while the rest of us drove on. Coming to a good camping place at about 4 o'clock we struck camp, turned the horses below us and then prepared supper. At about the time it was ready Riley and Ed came up and joined us. Afterward the rest of the boys worked on the trail while I washed the dishes, brought wood and made the bed. Turned in at 9 o'clock.

Jan. 29th. We had a good deal of trouble to keep the horses below us during the night. After breakfast was over with, Riley and Ed commenced working on the trail while the rest of us packed up and started the outfit. We soon passed the boys and when we came to a bad place would fix it and lead the animals over one by one. At one or two places we had to swim our horses to get by the rocks. One or two of the animals came near to breaking their legs by getting them fast in the rocks. We scared up 3 or 4 duck. Bonny shot one; we had him for breakfast the next morning. In going over one bad place Riley’s horse, “Doc,” fell off of a rock down some 11 or 12 feet. We all thought that he was killed at first, but falling square on his pack saved him. But the next thing was to get him out. We finally got his pack out from under him, but he was wedged in so tightly he could not help himself. I then went back after Riley and Ed a mile and a half down the cañon, but before we got back “Doc” was
on his feet, badly bruised and jolted. My camera was smashed to 10,000 pieces by the fall. We went back a little way and struck camp. The trail will have to be fixed before we can go any farther. We soon had supper over with and then went off to bed.

Jan. 30th. This morning Riley and Ed finished the trail up to camp while the rest of us fixed the bad place. In fact have been working on the trail all day long. "Gray Billy" fell off the same places that "Doc" did. At about 3 o'clock I came back to camp and got dinner for the boys. I do not fancy working on the trail. To pass time away played cards during the evening. Turned in at about 9:00.

Jan. 31st. Am 22 years old today. I wonder if my birthday is remembered at home. After breakfast was over the boys went to work on the trail while I packed up the things here in camp and got dinner. Have written my diary up to date, browned coffee, prepared dinner and then went up the cañon ½ a mile after the horses. On returning found the boys eating dinner. After that was over we packed up and started out, Bonny, Joe and myself driving the animals while Riley and Ed fixed the trail. We passed the "Shower Bath" or "Watering Pot." It projects from the cañon wall a good deal like an awning in front of a store; is composed of ferns, mosses, &c. The spring comes out of the wall behind the mosses and ferns and drips in a continual shower beneath. We went into camp at 4:00 p.m. I got supper. Boys came in from working the trail just before dark.

Feb. 1st, [1872]. We are camped at the head of the water, a long weary drive before us to the next water. Up early, got breakfast and drove up the horses, packed up and was off by 8½ o'clock. Our trail is better and work on it is suspended. We wind from point to point now under huge masses of rock and again through a thicket of willows. As we were jogging along I noticed that a pair of tripods were gone. After riding back 2 miles found them. We stopped 2 or 3 times and built a fire to warm our hands and feet by. The weather is cold and the walls are so steep and high that down below we are most always in shadow. Traveled at a jog till after dark and finally at 7 o'clock we reached Rock Springs, 28 or 30 miles from our last camp. 'Twas rather dangerous traveling the trail after dark; the horses went stumbling over the rocks, slipping here and there. We had to fix a trail for them so that they could get to the spring. We soon had supper made by a fire of sagebrush. A talk and smoke and we were rolled up in our blankets.

Feb. 2nd. We camped in the forks of two cañons, one which we came down, the other leading to the Buckskin, 10 or 15 miles longer to camp, but a far better trail. Decided to take the latter. After breakfast packed up and were off. The cañon is much
more open and the walls are lower. We soon came to Moquis houses, or their ruins rather, built up against the walls, and to their picture writing strung along for 2 or 3 miles. They were painted on the walls with black and red earthen paint and represented big Indians, little Indians, papooses, Indians of all shapes and sizes and conditions, lizards, bears, sheep, &c., &c. Joe and Ed left us and went ahead to their ranch to see about some horses. We struck the wagon road in the afternoon and shortly afterwards we were camped at Oak Springs, 20 miles from Rock Springs. We are in a romantic camp, a good camp and a pleasant one. It is in a cedar and pine forest in one of the ravines of Buckskin. Oh, but 'tis lovely. The ground is covered with snow and contrasts prettily with the dark green foliage of the trees, and down the ravine winds the road as wild and as lonely a one as one could wish for. After supper Joe and Ed came in. All afternoon the weather has been threatening a storm, and just at dark the flakes commenced to fall faster and faster; the wind moaned dismally and ever and anon a blinding gust would send a shower of snow upon us from the boughs above. We pitched our tent and built a roaring fire of fat pitch pine. I never enjoyed a camp before now—5 of us on top of a mountain in a snow storm—a good supper and good warm beds. To while away the time played euchre. How often I thought of the dear home so far away. Oh, if I could only be there I would be so happy, so happy. We went to bed with the snow pelting above us.

Feb. 3rd. On waking this morning found that the storm had passed away and the sun shining brightly. As my horse was about used up decided to lay over a day for rest. Riley and I prepared breakfast while Joe, Bonny, and Ed hunted for the horses. After breakfast was over Joe started out for his ranch again to hunt horses. I wrote my diary, read some old papers, climbed a small peak, and enjoyed a fine view. Before me laid the peaks and ravines of Kaibab covered with green pine and cedar trees, with patches of snow between. Cold white clouds were banked up against distant peaks. The sun shone brightly over all. If the folks at home could only have stood with me they would have thought the sight a grand one. In the evening prepared supper. Ed and I cleaned out the spring. Played euchre in the evening. Turned in at 9:00.

Feb. 4th. Up at 3½ o'clock this morning. Riley and I got breakfast and it was eaten long before daylight. As soon as we could see drove up the horses, packed up and started for camp 23 miles away. We soon struck the wagon road and a smooth trail all the way. The weather was threatening at first—a storm just back of us—but it cleared off. We reached the foot of Kaibab and struck across the bottom homeward bound. Jumped up sev-
eral rabbits, &c. We traveled steadily on the jog, reaching camp about 3:00 p.m. Joe and Ed drove on up to Kanab. Riley camped with us for the night. We found that the Maj., wife, baby, Vina, and Jack had started to Salt Lake City on their way to Washington and that Beaman was discharged, the Maj. and Prof. being displeased with him. Told Prof. about my trip; said he was sorry but it could not be helped. Received a good large mail, one from Morris, and one from Fanny, 2 from Mrs. Stevens, 2 from Belle, one from Ida Richmond, and one each from Fred Dudley and Frank Morse. One informed me of Uncle’s death. Cousin Nellie had heard of it before. She has my heartfelt sympathy. She feels badly about it. Spent the evening at Prof.’s tent. Prof. intends breaking up camp and go on a trip to the Buckskin, Cousin Nellie and all of us. Bish has gone to Kanab to finish his map and will then leave the company.

Feb. 5th. This morning Bonny settled with Prof. and left the expedition. Jones and I went to Kanab in the wagon. After we got there we drove into the creek to water our horses. Got stuck in the quicksands; got another horse and after some tugging were soon out of our difficulty. Went down to the fort. Saw Beaman and Bish there. A cool greeting between Beaman and myself; was packing up and starts for Salt Lake in the morning. Bish was working on his map. I took dinner with them and then went up to the ration house. Packed up a new set of chemicals, tubes, camera, &c. Beaman received his passes. In the morning Jones and I rode back to camp. Prof. bought some Navajo blankets of Bishop Stewart [Levi Stewart]. Spent the evening as usual. Joe Mangum and I bunk together now.

Feb. 6th. 'Tis dear brother Morris’ birthday. Oh, how I wish I could be there to wish him many happy returns of the occasion. After breakfast set up the dark tent and instruments and commenced business again. Took a few fair pictures with a new bath; could not make my old one work. Prof. is convinced that Beaman played the knave with me. Spent the evening with Prof. and Cousin Nellie. Waited for Mac to come with the mail. No mail on account of the snow blockade on the railroad.

Feb. 7th. Photographing all day long. Prof. satisfied that the job was put up on me by Beaman. Has telegraphed to the Maj. to stop payment on Beaman’s checks. He (Beaman) has left for Salt Lake."

Dear Morris: I send you my second diary. 'Tis not near as good as my other one; have not taken the pains with it. Will

"Thompson seems to have been convinced of Beaman’s responsibility for Clem’s failure. There is no record of such failures after Hillers replaced Beaman. But see Beaman’s reaction as recorded in Bishop’s journal for March 31, 1872, in vol. XV of this Quarterly."
send letter. Have been very busy. Am perfectly willing to stay with the expedition till 21st of April. I will return home then unless paid a definite salary from that time. Have spoken to Prof. about it. My dear brother, if it had not been for thoughts of you and the loved ones at home, would have left the exp. long ago. Prof. and Cousin Nellie are very kind, but I don’t think the Maj. has done the right thing by me. Will explain all in my letter. I think that when the year is up I will not be under further obligations to the Maj. The Maj. has always treated me very kindly and I think when you see him he will give you a favorable account of myself. I am writing this at Kanab; ’tis dark and I must return to camp 6 miles away. Morris, you know not how much I love you and the dear ones at Naperville. I am not happy. God bless you all.

Affectionately,

Clement.

[The third pocket notebook in this series of four is unfortunately missing. Every effort has been made to trace it through members of the Powell family, but without success. It may have been lost in the mails between Kanab and Naperville. Fortunately, Clem’s life during most of this period can be reconstructed in his own language from the series of letters which, though apparently first rewritten by his brother Morris, he contributed to the Chicago Tribune. Although these letters are far from being so satisfactory as the journal in revelation of Clem’s inmost feelings and his day-to-day viewpoint on the travails of the expedition, they are not only the most entertaining letters by any of the members of the Powell party, but are also rich in information.]
On the 16th of February [1872] we broke camp at Kanab Creek, and moved to the Navajo Well. This water-station was first known to the whites last summer. The train that met us at “Crossing of the Fathers” passed this way, and some Navajos were seen encamped about. The well is only 8 feet deep by 4 across, fed by a sulphur-spring, but is of value to travelers over the desert. As our animals could not jump in, like the goat in the fable, we watered them from the breadpan. We have all the conveniences, but not the style, of fashionable watering-places.

On Feb. 23, our party, numbering 10, started for the “Buckskin Range” [Kaibab Plateau]. I rode a mule called “Sis,” an old campaigner — intelligent, active, sure-footed. Behold us! Man of medium height; thick-set; erect; bronzed; bearded; ferocious mustache; suit of gray; broad-brimmed hat; huge Mexican spurs, with tinkling bells attached. In general appearance, a cross between a highwayman and a missionary. Across the saddle a rifle swings; canteen and revolver balance on either side. Carrying this burden is a mouse-colored mule, with Titanic ears, dark and rolling eye, scorn flashing from nostrils. Although it has a curb bit in its mouth the beast brays like the dismal gasping of a dozen disordered suction pumps in dry weather. A hundred such voices would take the dilapidated linen from the shrubbery of any Jubilee that Gilmore has yet dreamed of.

Pack trains present much of the picturesque to our observer. Winding in single file, the divers-colored animals, some mounted, others led, and many heavily laden, follow a leader, whose unerring judgment must find water at least once a day, and whose observant eye must ever keep the surest trail. Now, the cavalcade is lost to view in a gulch; then, they climb a cliff; again, a halt is ordered for readjustment of packs. Suddenly, a panic sets all in commotion. A vicious mule has bolted, stampeding the herds. Off they scurry, with drivers in angry chase; pots and pans musical, and way-freight promiscuously distributed. At last, an occasional gleam from canteen or rifle, and a cloud of dust.

*Reprinted from the Chicago Tribune, July 11, 1872.
*The diarists do not clearly locate “Navajo Well,” but Clem’s letter of May 21 indicates that it was about 22 miles southeast of Kanab.
are all that mark the progress of the train. Captain Dodds generally takes the advance, as he knows the country well. He was in charge of the Base-Line. While absent, one day, his camp was robbed. A Winchester rifle was most missed; it was one of the load brought down on the river voyage last year. Persevering appropriator subsequently made a descent on Professor Thompson's tent, and took some cartridges. We trust the hero of the rifle is happy now.

At evening, we camped at a sulphur spring on the plateau, in a grove of cedars. Pushed forward next morning in a blinding snow-storm, to Steward's Ranch [sic] which consists of two deserted cabins and a corral. In front of the huts, a large spring falls from the cliff over a talus of limestone, 200 feet in height. The stream, pouring over the friable rock, has deposited upon its margins a thick crust of carbonate of lime; these snowy ridges have parted the waters. Soon after our arrival, young Steward [Stewart] drove up a band of horses, returning immediately to Kanab. "Prof." pitched a tent, four of the boys another, and the rest put some boards over the roofless house, and took possession in the name of common humanity. Snow fell steadily, and soon we were snow-bound in a cheerless waste. Showering from above, sifting through the chinks, drifting about our dwelling, the white deluge envelops us, and all heartily wish to be "out of the wilderness." After the storm, found the stock scattered, requiring several days to collect again. I obtained some charming snow-scapes. Rounded peaks, heavily wooded, covered with snow, rise above us. Giant pines and cedars hem round the little valley.

Straight, symmetrical, these royal trees, clad in ermine and emerald, rise to a height of 200 feet, and often 250 feet. There is pine enough upon the plateau of this region to fence all the country west of the Rockies. Thompson will embody in his report statistics concerning the value and extent of these evergreen forests. It is thought the Southern Pacific Railroad will tap this Territory of its minerals and lumber. Owing to the storm's delays, we were running short of supplies, and a man was dispatched to Kanab for fresh stores. This plateau is channeled by Steward's [Stewart's] and Kanab Canions; the valley we are now in connects the two. Dodds and Jones went in search of some way from the plateau to the Colorado, to continue topographical work. In each monument put up, a tin case is deposited, containing date, and name of builder. Some of us went on a deer hunt; tracks run in all directions, but we had no time to stalk the wary fellows.

The mound-builders returned, driven back by the snows.

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100 Stewart's Ranch was in Stewart or Jump Up Canyon.
which lay 10 feet deep in places, rendering travel dangerous and
difficult.

On the 3rd of March I started out, with Assistant Jolly Jack, to
take views. The picture-writing in Moquis Cañón was copied
by the pencil sketches. These pictures seem to be heraldic his-
tory. For instance, there will be the figure of a Chief, followed
by representations of a mountain sheep, tarantula, lightning
clouds, serpent—

The sacred symbol, and the epic song,
Unknown the character, forgot the tongue.

A common and curious freak of Nature is to set an immense
boulder on a slender stem of shale; a sort of Atlas lifting a globe.
It is marvellous how these mushrooms retain their positions. As
we journey through the valleys, we find the grass growing green,
the nightshade in bloom, willows and cottonwoods budding. In
strange contrast, snow-crowned mountains tower above, and
lesser peaks are seen, with glittering crests. Climbing up a ridge,
we will leave a shower of rain to find snow flying in our faces.

We depend frequently on water-pockets to quench thirst.
Some are large, holding many thousand gallons; others are
wide and shallow, exhaling more vile odors than the City of
Cologne. The deeper ones (and the smells) last the year round.
Having got the country "packed" up, we returned. Met a party
of miners, with picks and shovels, "grub" and rockers. Arrived
at Pipe Springs March 11. This is a place of importance. It is
20 miles west of Kanab. The spring gushes from a cliff of red
sandstone, and spreads out over a bottom in quite a stream,
affording excellent pasturage. The following legend accounts
for the name: A company of hunters and trappers, resting here,
amused themselves by firing at a mark. Some wild shots being
made, one of the men stuck up his pipe near the water, thinking
it perfectly safe. The sharp-shooters blazed away, and the pipe
was shattered in fragments. Pipe Springs has figured con-
spicuously in frontier annals.

This barren wilderness of rock and sand offered few induce-
ments and little protection to the emigrant. Forts, posts, soldiers,
and even stage-stations were few and remote. There are now
no old settlers, daily papers, Dolly Vardens, or other luxuries.
Mormon people, however, are persevering, and Mormon leaders
sagacious. Colonies have lodged along all the mountain-streams,
and in every green valley; taking root, like the pine and willow,

Jack Hillers, here apparently referred to as Clem’s assistant, but soon
to be chief photographer.

Pipe Spring is now a national monument, its buildings being largely
restored to original condition. See also Dr. Gregory’s note, p. 107.
wherever moisture would nourish and soil support. So fine a pasturage as that of Pipe Springs was speedily used as grazing ground for herds of cattle, sheep, and horses. In 1865 [James M.] Whitmore owned the ranch, living in a stone hut with his son and two hired men. A band of Indians surrounded the premises, drove off the flocks, and killed the white men who rushed out to the rescue. Still later, an Indian surprise was effected, and 600 sheep taken. The savages satisfied themselves with sticking the door full of arrows, and burning the corral. The ranchmen, more prudent than the first owners, did not show themselves, and were saved.

The Navajo Indians, living in Arizona, some 200 miles distant, occupied the time, when not fighting other tribes, in raiding over the river to plunder the whites. They forced the cowardly Pah-Utes to lead them where settlers' stock was herding; then, in true Indian style, the Navajos would suddenly emerge from behind some rock or cliff, seize their booty, and be off in a jiffy. The Mormons, getting intelligence from scouts and sentinels, would promptly arm and mount; and an exciting chase for the river began. As the Colorado is only fordable at "Crossing of the Father's" and mouth of Pahria the pursuers and pursued dashed, at utmost speed for one or both of those points. Moving along parallel routes, the sheep-stealers and sheep-owners often arrived at the fords about the same time. The acute savages generally managed to skirmish and cause delays, until the plunder was safe on the farther shore; the warriors then retreated. In this way a few dead Navajos were exchanged for a good many live horses. It is hard enough, and bad enough, to live unmolested on the desert, but, when one is obliged to receive visitors at so much expense, and with so great display, the amusement grows stale. The frontiersmen, undaunted, kept a sharp look-out, learned the trails better, and perfected means of defense. At first alarm, they were at the heels of the Arizona Arabs, better armed, and equal in numbers. The battles then waxed hotter. The "reds" were severely punished; as the phrase goes, "they salted a good many Injins." Finally a fort was built and garrison maintained at the Crossing, and a treaty of peace concluded. Pipe Springs was often the theater of war. President Young and Bishop Windsor [Anson P. Winsor] secured the peace. Under the supervision of the latter, a large stone structure was projected, and is now building, at considerable cost. Windsor Castle, as we call it, is loopholed for musketry, and is used as a ranch, dairy, and fort. It is on the direct trail leading from the Indian country to the settlement, and forms a strategic point the Navajos or Apaches will find difficult to turn. We are encamped in one of the stone houses within the fortification, and enjoy hugely those rarities to the campaigner—fresh milk and good butter. Eleven
thousand sheep, 500 cattle, and some horses are kept here. We are indebted to the Bishop for many favors; he is a genial host. Resting from our labors, the younger and unmarried members of the party wander pensively about, singing, to slow music, strictly original and soothing strains about

Marrying a rich Señorita,
Living on a ranch in the West,
Smoking the light cigarita,
Taking our ease, and having the best.

During the day, weather is warm. The nights are cold, on account of the nearness of the mountains.

To the southwest, Mount Trumbull shows its wooded crest, 30 miles away. The foliage of the pines looks blue in the distance. Back of us the Vermilion Cliffs; southwest, the peaks and ridges of Kaibab glint in the glimmer of sunset. Future plans engage attention. Three trips are proposed—one to the Valley of the Virgin; another to the Dirty Devil; a third to Mount Trumbull. This will keep us busy until July. Stores will then be collected, boats repaired, and the fleet started down Grand Canyon. If successful, we shall turn our faces homeward in November next. Will work up the country from Fort Yuma to St. George; thence to Salt Lake City, and disband.

Captain Bishop’s topographical map of the river is completed; it is finely executed, taking time and skill. My smashed camera has been replaced by a new one; the cumbersome “hand organ,” exchanged for a lighter and more convenient dark tent.

The best indication we now have as to what Powell’s original plans may have been comes from Clem’s letter of July 17, 1871, to the Chicago Tribune of undetermined date, as found in the New York Public Library’s Dellenbaugh Collection. After running Cataract, Narrow, Monument, and Mound canyons, Clem said, they expected to meet the pack train at the head of the Grand Canyon, thence go to Kanab.

Major Powell has 13 horses there that will be used by the party in exploring the country. We expect to go into winter quarters about the 1st of December. Several of us will accompany the Major on a tour through Arizona, visiting the ancient cities and other objects of interest that abound in that region of wonders. Most of the work about Grand Cañon, which is 300 miles long, will be done during the winter. We shall have to wait for the river to rise in the spring before venturing upon the treacherous tide. About the beginning of the month of May, we shall make the start, and in 8 weeks hope to reach the Virgin River, at the head of navigation on the Colorado; from there down the creek to Fort Yuma, or across country to San Diego, on the Pacific coast, and thence by steamer to San Francisco; return to Salt Lake City, and disband.

From Clem’s remarks in the present letter, it would appear that these plans had undergone considerable change. They were still further to be amended before Clem left the party.
My pack horse is called "Chemicals," and is pretty well colored up. We are ready to make hay when the sun shines.

March 21. Left Windsor, in light marching order, for Mount Trumbull. A short way out, we halted to re-cinch "Chemicals." Our riding animals stampeded in the meantime. All were soon caught but my horse, "Buttons," who ran with speed and bottom, heedless of the gun tied to pommel of saddle. Those who joined me in the chase at first gave it up and went back to the train, which had not stopped. For a day and a half I continued the search for the "Winchester"—a valuable rifle, presented by the Major. Finally succeeded, with help from the ranch. The horses here are half wild, and are ever alert for a stampede. When on the march, they slip and fall, kick and plunge. If, in the course of one day’s jolting, pack and passenger are not sea-sick, either is good for an Atlantic voyage in winter. I had determined, after resting the fugitive "Buttons," to make a forced ride for Trumbull. Intelligence arriving that our boats on the river were being used and ruined by the miners, I started immediately for the Colorado. In the saddle at daybreak, with assistance to recover the craft. The new settlement at the mouth of the Paria is called Colorado Dell. A ferry has been established; a road thither is being made. The trail leads down a cañon, and up on the other side through a gulch. The Mormons are blasting rock to get a grade passable for wagons. All cached our boats there, and left for Kanab, and there was not a living soul in sight.

Meeting Mr. Hamblin, an old comrade and man of influence, we transferred our mission to him. The placer diggings, on the Colorado, still absorb interest. There is a constant stream of miners to and from Pioche. Those hastening to Grand Cañon are hopeful, confident. Those returning are desponding, disgusted. Old Californians assert that the mines will pay from $10 to $20 per day. They expected the rich leads of that never-to-be-forgotten year of '49. The excitement broke out so suddenly, the fever ran so high, that people crowded to the auriferous shore without food, without knowledge of mining, without

36 Clem’s letters reflect rather less of his personal feelings than do his diaries. Thompson wrote in his own journal on March 20, "Clem talked with me and said he did not care to stay. Told him he had better come on the trip to Trumbull, learn what he could, and then should have a separate outfit, if possible. He acquiesced, but I think reluctantly. Has not helped get ready, but little."

362 Fifty men were sent by Brigham Young to assist John D. Lee in making a road to and from the river. They were working on this date (March 21) and probably for some time previous. Since Lee was well established when discovered at the mouth of the Paria by Dellenbaugh in July, he had probably located at what he later called Lonely Dell in the winter or very early spring of 1872. The place very soon became known as Lees Ferry.
proper implements. After prospecting for a time, and getting but a few fine grains of gold, provisions run out, hopes fall, starvation stares them in the face. The dismal reports of the luckless ones sometimes cause new-comers to turn back when within 10 miles of the river. Others are determined to see the elephant\textsuperscript{29} for themselves, after so long and fatiguing a journey. Bonnamont [Bonnemort] and Riley buy up the quicksilver and copper plates of the “busted” companies, and seem to be successful. Driftwood, for camp-fires, is scarce. Cañon walls are 2000 feet high; the talus about 150 feet. The river margin is passable for some distance. The work is hard, turning over boulders, and digging debris. The only way of getting in or out of Marble Cañon by land, is via the Kanab Wash, described in my last. It is thought the gold is washed down the Green and Grand, and lodged, with sand and dirt, all along Grand Cañon. Others think the shining grains come from the Pahria and Little Colorado Rivers. Last year, an English Company sent an expert to this region. He pronounced the indications of precious metals on the Kaibab Plateau as good as anywhere in Utah. Capital will probably be required to develop the mines.

Of course, every prospector remembers the extraordinary luck of new miners, and, like the lottery-ticket holders, hopes to draw a large prize. One young man left home with his earthly all; lost it by the time he got here, and now depends on charity of the miners. The hapless youth has a walk of 200 miles before him, without a dime for food or shelter. Another penniless adventurer tied his horse to a sage-bush. The horse and bush are now chasing the antelope over the plain. The owner is working for money to take him home afoot. Frequent fights are indulged in. The miner’s camp is a cheerful and elevating place. The Pah-Utes prowl about, begging, doing odd jobs, and selling Indian trinkets. Short in stature, half-starved, scantily-clothed, they present a pitiful, abject appearance. The squaws transport their progeny in Konunkwas—willow baby-baskets, covered with buckskin. When at Kanab we noticed a Ute mother, not more than 3½ feet high, carrying a queer little imp, evidently the youngest of a numerous family. The papoose attracted the attention of the young Mormons who followed in a crowd, crying, “Oh, see that little devil!” The remark was coarse, disrespectful, but wonderfully apt. Pah means elk.\textsuperscript{30} White children should

\textsuperscript{29} The exact origin of this slang phrase has not been determined, but it was popularized by the forty-niners. To “see the elephant” was to undergo one’s full share of hardships; here it also implies seeing a thing through to the end.

\textsuperscript{30} In the Ute tongue “pah” means water. In the same tongue, according to the vocabularies collected in 1859 by Captain J. H. Simpson, “par-i-ah” means “elk,” rather than “elk water.” Why this name should have been applied to a river to which elk are not common has not found a plausible answer.
never address their fathers with such a discourteous term. Most of the tribe are now out on the plateau, gathering yant—a species of the rose. From this product they made a cake, by baking it in the ashes. It is said to taste like roasted chestnuts.

**March 29.** A storm of mingled hail, rain, and snow drives all within the castle walls. I have been writing this letter the while. A crazy shepherd pesters me with questions. He has heard of my acquaintance with drugs, and asks, for the hundredth time, what is good for his sore throat. After making a critical examination with butcher-knife and spoon, a severe process of reasoning has led me to suggest, confidentially, the use of soothing syrup and sage (bush) tea. To beguile the hours, I have lectured to the miners on the Correlation of Forces, the Immortality of the Soul, and the Eternity of Matter. Have also advised them to go West. Practiced with the lasso, which I can now throw with accuracy around stray sheep. Confinement soon proves monotonous, and I wearily wait the return of the train.

**April 3.** Sunday last [March 31], Jones and Fennemore arrived, having ridden 50 miles without water. They reported Thompson’s party snowed in at the lower end of Mount Trumbull. Feed for horses and wood for fires exhausted. Captain Dodds can find no way for the train to the Colorado. He succeeded in reaching the river on foot. It has stormed steadily. Our comrades have experienced the discomforts we endured at House Rock Valley. Stores will be immediately taken for their relief.

Gold excitement is unabated. Fifty men are here encamped, waiting for the weather to close. A brisk trade is being carried on in butter and beef. The currency used is fair to see—silver dollars, halves, and quarters, five-dollar gold pieces, eagles, and double eagles. An occasional greenback adds variety. A counterfeit $10 note was passed on Mr. Windsor, that greatly puzzled the good Bishop. Miners report every trail to the Colorado Cañons crowded with men seeking the new Eldorado. The washes leading down, such as Pipe Springs, Kanab, and Grand Wash, are the only practicable routes to the river. All sorts of outfits arrive. Some come in wagons, some on horseback, muleback, afoot, and one in a donkey-cart. Anything on wheels is utterly useless beyond this point. Many miners are going to

"Paria" locally is pronounced "Pah-ree." In Clem’s journal entry for July 15, 1872, he corrects the spelling of the river’s name, saying it should rather be "Pah Weep." Simpson’s vocabulary gives "weeb" as Paiute for oak, and this suggests the possibility that the original name meant something like "oak water." However, William R. Palmer, writing in this Quarterly, 1928, vol. I, p. 21, notes that the Paiutes called the Colorado River by a name somewhat similar to "Pah Weep"—"Pa-ha-weap" interpreted as meaning "water deep in the earth" or "a long way down to water."

Jones’s journal resumes with the entry for March 31, 1872, and from this date may be compared with Clem’s letters.
Arizona and New Mexico. It is said that gold has been found along the Little Colorado. A mule, with saddle and bridle, costs here from $40 to $50. As future letters will chronicle active operations only, it may be well here to give the results of the expedition thus far. Fourteen hundred miles of a tortuous and almost inaccessible river have been mapped by the civil engineers. A continuous sketch of the left wall of the Colorado and Green has been made by Dellenbaugh. His portfolio is also full of miscellaneous drawings. Nearly 1000 stereoscopic\textsuperscript{108} views have been obtained. Many can never be duplicated; most are pictures of scenery as grand as the Yosemite, as wonderful as the Yellowstone, and less known than either. A book will be written explaining the views. An accurate survey will soon be completed of the Valley of the Colorado and tributary streams. The Base-Line, 3 miles from Utah and Arizona boundaries, will form the basis of future section, county, and State surveys. The difference in time between this point and Chicago is 134 [13\%?] hours. The minerals of the country traversed have been examined, and specimens obtained. The most important are silver, copper, and coal. Gold is very fine, and placer-diggings have alone been discovered. The report of the Geological Corps will be of great interest. Much new information will be added, and studies in structural geology completed. Fossils of bones, plants, fishes, and corals have been shipped in large quantities. We find evidence of large fresh-water lakes; remains of curious animals; forests turned to stone. Silicified tree-trunks, 80 feet long, and 2 or 3 feet in circumference, are scattered over the desert, drifted over by sand—reminding one of the broken columns of the Nile. The plants of Utah have been gathered and classified. Mrs. Thompson has over 200 varieties. They will appear in late editions of standard works on Botany. Major Powell has given special attention to Indian lore. He has made vocabularies of the Ute tongue, learned their traditions, religious rites, and tribal laws. He speaks the gibberish of the various tribes, and probably is the most thorough student of their jargon of any

\textsuperscript{108}Many distinguished stereoscopic views were taken by Powell’s photographers. Mr. Darrah, who edits Steward’s journal for this volume of the Quarterly, advises the Society:

The stereoscope as we know it was invented in 1858 or 1859 by Oliver Wendell Holmes, the very same “Autocrat of the Breakfast Table.” His versatility is scarcely known to the modern generation. Actually stereoscopes were available in this country in 1851, and the Langenheim Brothers had established a thriving business in stereoscopic views as early as 1854. Other competitors were in business the same year. The cameras used by Beaman, Fennemore, and Hillers in 1871-72 were stereoscopic cameras taking double exposures, simultaneously. Hundreds of the original negatives are still preserved. Stereoscopic cameras were used by the Powell expeditions almost exclusively until 1876, and used intermittently thereafter for certain purposes.
white man now living. Specimens of the implements of war and husbandry, products of the industry and skill, of American Indians, from the Mound-Builders and Aztecs to the Utes and Navajos, are being collected in as complete sets as possible; also blankets, and robes of rabbit and wild-cat skins. The arrows alone are suggestive of the power and prowess of the warriors who use them. The Pah-Ute bows have sinew backs. The Navajo arrows have iron heads, and are feathered. With one of these arrows they can shoot a man through and through at 50 yards.

April 5. We start today for Mount Trumbull. A council of the Indians will be held there, and gifts distributed. Thence we will turn southward, to the Valley of the Virgen. Fine views and plenty of adventures are expected. Storms continue. The mountains, peaks and ridges, of Kaibab look drear in the chill and misty air. Who would be an explorer?

Clement Powell.

II

In Camp, Arizona Territory, May 21 [1872].

Bidding adieu to the hospitable inmates of Windsor Castle, on the afternoon of April 5, we (i.e., Fennemore, Jones, Adair, and I) started with stores for the beleaguered party at Trumbull. Had not gone far when the inevitable mishap occurred. One of the horses gave out, and was sent back by a passing train. Camped at Cedar Ridge, 8 miles out. It rained through the night, greatly to our disadvantage. In trying to scale the steep and slippery ridge, next day, the wagon stuck fast. Four men were then obliged to do what four horses could not, viz.: take the load to the top. The slow and toilsome journey was not particularly enlivened by cold winds and blinding snows. Freezing in winter, melting in summer, hard work all the time—such is campaigning "Out West." At frequent intervals, we met miners on their way.

Variant spellings of the name of the Virgin River appear in all the journals. The Spanish form, "Rio Virgen," was used by Frémont in 1844, and often appears later in the corrupted forms, "Virgen River," or "Rio Virgin." Strangely, an affluent of the Virgin, La Verkin Creek, is another Spanish version of the same name, so that today the Anglicized form of the name is applied to the main river, and a Spanish form to a tributary creek.

Reprinted from the Chicago Tribune, July 26, 1872.

See Jones’s journal for a more connected account of these adventures, and Dr. Gregory’s notes, pp. 126-138, for a fuller annotation of the itinerary.
to the "diggings." I have remarked one ailment common among gold-hunters; it is popularly known as erysipelas. This disease nearly always breaks out on head and face; it is produced by violent contact with knuckles, clubs, and glassware, and is aggravated by poor whiskey. The malady seems to be contagious. When one man gets it in a camp, with great alacrity and cheerfulness he passes it on to his neighbor. A healthy and devoted frontiersman will work off fancy heads with neatness and dispatch. Phrenological charts of a subject well handled would sell readily as maps of the Sandwich Islands, or other hilly districts.

Women's rights prevail. One company, which passed today, consisted of 4 men and a Spanish woman, all afoot. The latter was Generalissimo of the forces, and owned the entire outfit, which consisted of whiskey. Night came darkly down, and the wind blew a piercing gale, when we reached the Sheep-Troughs, 24 miles from the ridge. A small stream, scarce an inch in diameter, comes from the side of a cliff, 200 feet from the ground. The water is conducted by numerous troughs to several large reservoirs, where 1000 or 2000 sheep are watered. Weary, chilled, and hungry, a heated discussion broke out, and symptoms of "Erysipelas" appeared. Hot coffee and warm steaks cooled the dispute. We crept under a huge, solitary rock on the bleak plain, and slept like brothers. Clear and cold the morning dawned as we resumed the march, relieving the tedium of travel with song and jest. Seven miles out we halted at Gould's Ranch, to trade beef for dried peaches and fresh milk. Two miles beyond is Hurricane Hill. The cliff is 1000 feet in height. Down its steep face, the road winds for miles. At its foot, the waters of the Virgen glisten. Just across, the village of Toquerville lies in the lap of the hills. Northward, rise the Pine Valley Mountains, covered with snow; they are from 6000 to 7000 feet above the plain, and 12,000 from the sea-level. The country is broken, bold, and rugged. Chasms, gulches, gullies, and ravines appear in labyrinthine mazes, with ragged cliffs, spired and rounding peaks, between. Our road has been sandy hitherto; now the wagon jolts wearily over lava-rocks. At 4:00 o'clock, reached Berry's Springs. The water is alkaline. The Rio Virgen is 200 yards away. St. George is 15 miles distant. Above the Springs is a stone fort; behind that, a corral, in which stock was driven at night. The place is deserted now, but its story still is told.

In the year 1868 [1866], a man named [Joseph] Berry occupied the fort. He started, with his son and daughter-in-law [Robert and Isabella], for Long Valley [from Spanish Fork], not anticipating trouble from any of the Lo family. Arriving at Short Creek, some 20 miles north of Pipe, a band of Pah-Utes surprised and fired upon them. The elder Berry, who was driving,
fell dead. The woman threw out the load, and young Berry drove furiously away. The Indians, on fleeter ponies, kept heading off the fugitives, until the second driver was slain. The horses gave out from galloping through sage and sand; but the heroic woman tried to unharness one of them, and escape on horseback. She was shot in the endeavor. One Indian only lost his life. Horses and goods were, of course, stolen. A party that went in search of the murdered family, found the dead bodies several days thereafter. The Pah-Utes charged the massacre upon the Navajos, but it is generally believed that the former were the authors of the crime.

We expected to meet the expedition at this place, but were disappointed. Some miners were here encamped. Becoming disgusted with prospects in Utah, they soon started for mines in Arizona. We look about to get our bearings. As no map of this region has yet been published, the following sketch will give the reader some idea of the topography of the country: Standing on the walls of Windsor, at Pipe Springs, Mount Trumbull can be distinctly seen 50 miles to the west. South lies Kaibab, 9000 feet above the level of the sea, and 3500 from the plain. The summit of this plateau is level. It extends across the Colorado into Arizona. Rising from its southern rim, are the San Francisco Mountains. In the lee of a long line of red cliffs, east of Pipe, nestles the village of Kanab. At that point, the Kanab Wash heads: running south 60 miles, it cuts through the plateau, and empties into the Colorado. The general course of the Colorado through this country is east and west. Going east, up the river, we find the Pahria; at its mouth, 2 boats were left when we went into winter-quarters. Next is a stream, called by our men Birch Creek [upper Escalante River]; still farther up, the Dirty Devil. At the junction of the latter with the main river, we secrete[d] one boat. The pack-train having failed to meet us there, as per programme, and being out of photographic material, the intention is to go back overland, bring the "Canonita" down, and complete the series of views.

West of Pahria, the Río Virgen is the next tributary. Thence, the Colorado turns sharply south, a large, navigable stream, emptying at last into the Gulf of California. It must be remembered that I speak only of the country and rivers north of the Colorado. Our surveys and travels by land are from the Río Virgen to the Dirty Devil. It is, for the most part, a mountainous, waterless desert. Upon its borders, Mormon settlements are thinly scattered. In the more fertile valleys, Indians dwell—begging, thieving, treacherous tribes. This will suffice for all future letters. Reference to the description will explain our wan-

For a more detailed account see Peter Gottfredson, History of Indian Depredations in Utah, Salt Lake City, 1919, pp. 181-183.
derings. At House Rock Valley, midway between the mouth of the Pahria and the settlement, 40 miles east of Kanab, the latitude is 36 degrees 58 minutes north, longitude 111 degrees 20 minutes west of Greenwich.

About Mount Trumbull are lesser peaks, named Emma, Lucy, Stanton, etc. They are of volcanic origin (I do not mean the ladies), and form the rim of extinct craters; extinct only apparently—they (the mountains) may break out at any time. The region, for many miles about, is covered with lava. Basalt, the latest eruptive rock, is piled about in the strangest forms. This outpouring of subterranean fires must have been a magnificent spectacle. The eruption was certainly upon a colossal scale. Great rivers of fused minerals have poured through the pine forests, deluged the valleys, and, at one place, reached the Colorado. The most singular spectacle presented is a ragged line of lava-cliffs. If a mass of summer-clouds, fantastically shaped, ebon-colored, had turned to stone, and fallen in a confused heap, the sight would have been similar.

Thompson’s party reached camp the day after our arrival. Having run out of other supplies, the men had fared sumptuously on beans. Storms had driven them from Trumbull, with work unfinished. Operations have necessarily been slow and arduous. Summer comes apace, and we cannot linger or delay. Dodds took a division to the mountain. “Prof.” with another, left for St. George. [Alfred] Young started out after horses. Three men were directed to climb the Pine Valley Mountains; and I was left to guard camp. Was visited by Indians. Frank, Chief of the Kaibab Indians, was bedaubed with yellow, red, and black ochres; gorgeously arrayed in a red flannel shirt, resplendent with beads; and rode a Navajo horse. Soon, other Indians appeared like apparitions. They demanded “blour” [flour] and meat. The number increased, until a party arrived with a pack-horse, expecting to load it with provisions and other gifts. I gave them a lunch all around, and told them to piqua—go.

Monday, April 15. Jones, Johnson, and Andy came in. They failed to make the top of Trumbull, on account of snow. In the descent, Andy slipped and fell. He shot like an avalanche from bank to bank, rattling over rocks, spinning over chasms. After a flight of 200 feet, he landed safely, as if he was accustomed to that kind of sport. Thompson returned on the 17th. This is the day commemorated by the Mormons as the anniversary of the prisoners’ release at Salt Lake City. One of our men, being

The reference is to the decision of the U. S. Supreme Court in the Engelbrecht Case, rendered April 15, 1872, which overturned judicial proceedings in Utah during the previous 18 months and declared null indictments against some 120 Mormons, many of whom were in prison. See Robert J. Dwyer, The Gentile Comes To Utah, Washington, 1941.
of Saint-like and spiritual tendencies, celebrated the event with great hilarity—a case of “Erysipelas” resulting. Wild ducks are very plentiful, and we indulge in the sport of shooting them. I went, with a companion, to Kanab—returning alone. The journey was prolonged by the exhaustion of saddle and packhorse from recent mount[ain] trips. Again encountered trains of miners. The excitement is fast ebbing away.

April 22. Wagon sent to Toquerville, 10 miles east, for the Indian gifts. At the solicitation of Major Powell, the Government sent stores from Salt Lake City to be distributed by our expedition among tribes deemed most needy and deserving. The Sheberites [Shivwits] were considered objects of charity.

April 24. A party left for St. George, on its mission to the redskins of untutored minds. Some misapprehension on the part of the latter led to the rather amusing circumstance of white men pursuing a tribe for the purpose of giving good things, and the Indians retreating in haste, as from a relentless foe. The Sheberits dwell on the mountains and in the valleys about Mt. Trumbull. These were the people that ambushed and killed 3 men of Powell’s first expedition. It appears that they have been watching our movements all winter. They finally [firmly?] believed that the sole object of this enterprise was to avenge the death of the murdered men. When we started for Trumbull, the savages fled to the settlement for protection. When our humane Professor sought a council at St. George, the Shebs, quaking with fear, would not listen; their ears were stopped up, and all that sort of thing. This talk was cotch-wano—no good. Wickiups left standing, and recent trails, indicated a hasty retreat. When the cunning rascals became convinced that the Great Father at Washington had really sent them gifts, then Thompson’s talk was Towich-wana; ou-wick-er-am!—Very good; yes, indeed! The tribe speedily collected. The braves, 150 in number, were seated in a semi-circle. The Professor harangued. Adair interpreted, and Jones conducted his part of the ceremony in a creditable and awe-inspiring manner. The motley groups that filled the background chanted “There’ll be no sorrow there,” or something equally appropriate. The presents—consisting of cloth, blankets, hoes, knives, shirts, pans, axes, &c.—were impartially distributed, all receiving some share of the Government’s bounty. I said all [but] that was a mistake. The exercises were concluding with a general hand-shaking and expressions of good-will, when a dusky warrior was seen riding furiously to the pow-wow, screeching in Indian jargon, “Hold on! One more Injun!” He was too late, however, his blanket is folded about some more fortunate comrade. The Chief made a speech, to which our Chief replied. Dancing and singing closed the ceremony.

—Compare Jones’s journal entry for April 17.
On the 25th, Dellenbaugh came to camp, exhausted with travel and hunger. He had become separated from Dodd's party on the morning of the 24th and wandered about nearly two days, without food. Any one who has traveled in a pine forest on a mountain side, with no guide, trail, or landmarks, can appreciate the situation. Dodds reported on the 26th, rejoicing to find Fred safe. On the 29th, we broke camp at Berry Springs, the men being divided, and work apportioned, as usual. Some were to climb the Pine Valley Mountains; the photographer to take views up the Virgen; others to Pipe with wagon and surplus baggage; the rest of us going to Beaver Dam Mountains for topographical surveys. Our objective point was the highest peak of the range, Mount Turner [Mt. Bangs?], 30 miles south of St. George. We crossed the Rio Virgen, and followed it for some 10 miles. It is a narrow, shallow stream, flowing, as do all the southern tributaries of the Colorado, over quicksands. It winds about among hills, cliffs, and sage-encumbered plains. From the summit of a ridge, the village of Washington came to view. For months, we have seen nothing but sand, and sage, and rock—gray, desolate landscapes, with an occasional oasis of pine. Here, at our feet, is suddenly revealed something like civilization and human life. The place contains about 500 inhabitants. The houses, of adobe, stone, and pine, are all neatly whitewashed or painted, and environed by shrubbery. The gardens are green with growing vegetation. Double rows of cottonwoods and locusts mark each street. The Virgen runs below the town, and beyond that lies the farm. There is a large woolen factory in successful operation here. Brigham Young built it, set it going, and sold it to the place. It is run by water power.

Five miles beyond is St. George, the largest town in the Territory, save its capital. It has a population of 1500, and, in a Territorial sense, is a lively place. There is a Court House here, two hotels, and half-a-dozen stores. There is also a Tabernacle, and a Temple is begun. The citizens intend making the latter the finest in the Church, except the one at Salt Lake. The estimated cost is $300,000, to be paid out of the general tithing fund. The foundation only has yet been laid. The difference between a Tabernacle and a Temple is this: In the former, the general business of the Church is done. The Temple is solely devoted to religious uses. The priests are therein anointed, and the most sacred rites performed. Every faithful

238Although the largest Utah town Clem had yet seen, St. George was considerably smaller than Ogden or Provo.

239The St. George Temple, completed in 1877, was the second one begun and the first completed in Utah. Temple, Tabernacle, and Court House still stand in St. George.
Mormon is expected to pay one-tenth of his annual gains to the Church. This fund is used in the erection of public buildings, formation of new settlements, extension of railway and telegraph lines, &c. I am here reminded of an error made in copying a letter,* in which the statement appears that Mr. [Amos Milton] Musser has the spiritual oversight of Kanab. He is in charge of the telegraph. Steward [Levi Stewart] is the Bishop there. A Mormon Bishop has added to his spiritual functions those of a civil magistrate as well. A set sermon is seldom required in a country-place. Once or twice on Sundays, the people meet at the Tabernacle. Any one so moved arises, and speaks upon Church affairs, and kindred topics, or discusses measures of public enterprise and general welfare. The Bishop presides, adding suggestions, or making exhortations, as occasion requires. A hymn is sung, and the services conclude.

Dancing is a popular amusement, and always begins with prayer. A Mormon's social standing is largely determined by the number of his wives and children. A Saint is not allowed to marry more wives than his income will support. Ten or 15 years ago, the sites of these now thrifty towns were adorned with sage-bush, and rich with sand. The settlers, by irrigation, have produced fine gardens and productive fields. The farms are not owned and worked by individuals. Each contributes a certain amount of labor, and receives a corresponding share of the crops. Approaching these towns from the desert, they appear attractive, embowered, and almost hidden with foliage. Indians haunt the villages, and generally earn the biscuit given, by odd jobbing.

Bishop Snow [Apostle Erastus Snow], President of Southern Utah, lives at St. George. President Young also has a [winter] residence here, where one of his wives resides. A son of Bishop Snow is about starting as a missionary to England. He was serenaded by the band the evening before the departure. It is not an uncommon occurrence for the wives of prominent and wealthy Mormons to live in separate villages.

April 29. Crossed the Santa Clara and the Virgen. One horse was nearly drowned in the quicksand while making the passage. The Santa Clara comes in from the northwest, and unites with the Virgen below St. George. On the road to the mountains, Indian wickiups are scattered about. Mrs. Thompson accompanied the Professor on this trip, being desirous of making botanical collections, and inspired by a love of adventure. The Indians swarmed about as we passed: when they caught sight of the lady, they shouted in astonishment, "Squaw! Squaw!" The

* [Footnote in Chicago Tribune] Mr. Powell's letters are often written with pencil. After a long transit by horseback, stage, and rail, the MSS. arrived soiled and torn. Hence occasional errors in copying.

Amanuensis [Morris B. Powell].
Chief guided us a short distance on the trail. He was offered some beads and a looking-glass to show us the first water-station. That seemed "too thin" for the noble red man. He professed to be very tired, but intimated that the present of a blanket might relieve his weariness. This was refused, whereupon the shrewd fellow professed to be very hungry for tobacco. "Prof." replied, "Cotch tobacco," and we drove on. Traveled until nightfall, but found no water. Made a cake with the small supply left in the canteens.

Next morning were off without breakfast. The bold and striking scenery had few attractions for men hungry and athirst. Over ridges, through valleys, between the narrowing walls of cañons, our devious course led us. In many singular shapes and weird fancies are the lava-formations. There are bristling ramparts, ragged walls, big boulders of basalt. Fred found a little water at noon. It was surcharged with alkali, and horrible to drink. After we quenched thirst, the horses drank the spring dry. The one with cleanest hands made bread. Water was too scarce and precious a fluid for washing purposes. The way led down to the Grand Wash, which runs south to the Colorado River. A water-pocket found in a cañon proved a treasure indeed. Being but 15 miles from our destination, Mt. Turner, we encamped. "Prof." and Dellenbaugh were occupied 3 days in making observations. Adair, in scouting about, found trace of recent depredations by the Indians. Stock had been stolen from some ranch near, cooked, and eaten.

**May 5.** Started for Pipe, *via* St. George. The second day out, stopped at Fort Pierce [Pearce]. There is a spring here, at the head of a short cañon. The fort is like other frontier outposts. It is built of stone, with a corral adjoining. The structure is strong, and large enough to shelter saddle animals in case of Indian attack and siege. Protected from the rain, we camped within the deserted walls, feeling that a fashionable hotel could offer few greater luxuries. We struck the road now building by the Mormons. It is unfinished, and proved worse than the old trail. At Hurricane Ledge, we had great difficulty in getting the animals to the top. Notwithstanding ceaseless rains, we journeyed on to Pipe. Found the remainder of the expedition, save Dodds and Andy. Moved to our old camp near Kanab, and preparations for the Dirty Devil trip began. Eleven men will undertake this journey. As it is in the country of the Red Lake Utes, a hostile tribe, all will be well armed.

**May 14.** Dodds is just in, and reports that we have been...

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128 Concerning the returned travelers, Bishop noted in his journal for May 12: "Mrs. Thompson looks careworn and thin. It has been a pretty rough trip on her. Fred looks well but rough as an old frontiersman. Clem appears as comical as a clown with all of his whiskers cut off but his moustache."
plundered by the miners. Our caches at the mouth of the Pahria have been dug up, and the contents scattered to the winds and wolves; the valuables stolen. We lose specimens, boat-requisites, and camping utensils. The greedy grabbers took our life preservers. One boat they failed to find, although a hundred holes or more were dug in search.

Rafting on the Colorado has been tried by the miners. One company thought it was safer to float down the Marble Cañon than go thither via Kanab Wash. The raft went to pieces in the first rapid, and the navigators were nearly drowned. They escaped with their lives, but lost all their effects. Imprisoned in a high cañon, the[ir] predicament became precarious. On one side, a frowning wall; on the other, a terrible river. No egress above or below was offered by the narrow margin of sand and pebbles. After great exertions, the shipwrecked mariners placed poles from ledge to ledge, and, by climbing these, managed to scale the face of the cliff, and walk to the settlements, without food. Another party had a similar experience at a rapid on the Colorado near Diamond River [Diamond Creek], at the foot of Grand Cañon. The river is 20 feet higher than when we left it, and the floods are driving the miners away. Gold-dust is sold here at $16 per ounce.

Men have flocked here from California, Montana, Nevada, Arizona, and Idaho. One company, numbering 17, sent scouts down the Wash, and up in the Dirty Devil country, prospecting. A Spaniard accompanied the latter expedition as guide. After some time had elapsed, one of the number sent up the Colorado returned, telling a doleful tale. He reported that there was no gold in that country; that his comrades had gone to the Navajo region, except the Spaniard. This unfortunate foreigner had been stripped by the Indians, and, in a starving condition, had started for the settlements. The reporter claimed to have been "alkalied" by bad water, and undergone incredible hardships. The main body of the miners, discouraged by a story so dismal, returned to Pioche. The scout ostensibly started to see a very particular friend at Salt Lake City, but it has since been ascertained that the hero of hairbreadth escapes went back to Potato Valley. The Spaniard's martyrdom proved imaginary. This circumstance leads to the belief that gold has been found.

May 20. An Indian pow-wow was again in order. For some time the Kaibab Indians have been hanging about in ever-increasing numbers. Having heard that goods were on the way for them, they have carelessly inquired, "How many sleeps (days) blankets come?" They are always hungry, firmly believing that a feast is vastly better than enough. Andy makes them rustle sage-bush and pack water in part payment of the biscuit they consume. They call Major Powell "Copperades"
[Kapurats] (arm off). We have them make moccasins for us; they are the easiest shoes to travel in [that] the world can produce. While making these notes, squaws, papooses, and braves have gathered about, squatting in a circle. "Prof." told them that the Big Chief at Washington wanted very much to see them. I accordingly took their pictures. Hamblin acted as interpreter. This is Frank's band. After receiving the presents, the red men became very vain, looking with scorn on a common white man. The Moquis and Navajos are the only Western tribes that weave blankets. In the subjugation of the latter, a long war was required. The Navajos seem to have fought with considerable persistence and pluck. Thousands of their sheep were killed, and large peach orchards cut down. The Indians were finally driven into a canon surrounded by troops, and all escape cut off. This proved a Waterloo to the Savages, and they are quite peaceable now. We hear that the Apaches are restless.

All are extremely busy. To-morrow we start up the river, and will bring down the boat, if possible. Then the canon trip, and home. It is 3 o'clock in the morning as I finish the last sheet. At 5:00 we are off.

Clement Powell.

III

In Camp, June 12 [1872].

This warm summer morning tempts one to the tent. I improve a brief interval of rest in writing. Going back in the calendar to May, we and the party at the old quarters near Kanab.

The Indians to whom patents were given are cultivating a small patch of land with the newly-acquired implements. The children of the desert are necessarily industrious in gaining even scant supplies from so ungenerous a mother. When a happy fortune sends a Government expedition among them, supplied with food and valuables, the astute red man promptly presents his claims. Dusky groups hover about, offering aid and asking for gifts.

Andy boiled a lot of beans one day, to serve for dinner. An Indian whiffed the tempting odor from afar, and begged a supply,

The military operations Clem describes were conducted by Kit Carson in January, 1864, in the Canon de Chelly.

Reprinted from the Chicago Tribune, September 5, 1872. From the dateline, this letter was written at Kanab.
declaring he had eaten nothing for two days. One of the boys emptied an entire box of Jayne's Pills in the pot, and cheerfully mixed them in. The savory dish was then given the starving brave. The latter took hold well at first; but the last three or four dozen pills failed to give a relish, the sugar-coating having peeled off. The proprietors of the medicine can get a first-class certificate from that sufferer. The eyes of the red man have all the seeming of a demon's that is dreaming, but the sunlight o'er him streaming casts no shadow on the floor; oh no! he is altogether too thin for that. He is waiting patiently for Andy's scalp-lock to hang up in his lodge.

The Ute nation has been large and powerful since the settlement of Southern Utah, until recently, the Utes have proved troublesome. The Kanab band was particularly active, fighting the Mormons and their neighbors with equal promptness and impartiality. Frank, the Chief, stationed some of his warriors in the fort at the river, where they fought with the whites against the Navajos. One winter Frank was out hunting on the Buckskin range and saw a party of raiders. He started immediately for the fort to give warning. After wading through deep snowdrifts for more than 30 miles, he arrived at the garrison in an exhausted condition, being able only to ejaculate, "Navajo! Navajo!" Scouts were sent out next morning, but seeing no hostile redskins, or signs of marauders, they returned, calling Frank a liar. The Chief's report was soon emphatically verified, however. A large amount of stock suddenly disappeared, including 600 sheep. The animals were driven across the Colorado. The cunning Navajos sprinkled sand on the ice to hurry over the herds. The winter of 1867 was one of the coldest ever known in this region. The Colorado was frozen over at the fords.

Our party, with the wiry little Professor at its head, moved southeast to Eight-Mile Spring. Finding little water there, the march was continued to Johnson's Cañon. Here are water and grass in abundance. We were soon encamped above the ranch. A Mormon marriage took place next day—Sunday. A wedding tour being a necessity in stylish affairs of this sort, a requisition was made upon our stock of saddles and bridles. The happy pair, seated on one horse, were followed by groomsmen and bridesmaids mounted in the same social fashion.

Our work was to climb Point B—an important geodetic point. It is 20 miles southeast of Kanab, and 2 north to Navajo Well. It rises from the Vermilion Cliff, ranging back from Kanab. Fennemore, having been ill, remained in the rear. On the journey to our camp, he got lost, not knowing the trail. Wearied by midnight, he went to sleep. His mule struck for higher wages mean-

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[23]They were setting out to find the elusive Dirty Devil River.
while, and, when the photographer awoke his means of locomotion were limited. He had no water, and was thirsty; no food, and was hungry; he wandered far, and was exhausted; had no mule, and was very wroth. Adair was out hunting horses next morning, and discovered him. Mule and equipment were found next day. These common experiences in the campaigner's life are not particularly relished by the novice.

Bishop and Beaman dined with us recently. They started for the Moquis Towns, but could not cross the river. They report the Pahria very high. The Colorado is more than ever formidable, pouring the floods and freshets of all its tributaries from wall to wall. Our old camp near the crossing is submerged: the boats are in danger of being carried away. The snows of the winter past, and the rains of the spring, have been unprecedented for length and severity. We are in constant fear of losing the boats by molesting miners or encroaching waters. Our guests, when returning, saved the "Nell" from capture.

Calculations being completed, horses shod, and packs adjusted, 10 men, with 23 animals, expected to make the stream of elegant name in 8 days. Alas! his Majesty is the hardest to find where there are the fewest people. The worst place of all to seek him is at home. We have found the entrance to Hades; it is a horrible, solitary desert. Our objective point was the Dirty Devil [Henry] Mountains. These are 3 [5] in number, standing north of the Colorado, southwest of the stream from which they take their names. Messrs. Ham[b]lin and Dodds, our train-commanders, old frontiersmen, and familiar with all the tracks, tried to find the river last year, but failed. Ham[b]lin and Haight then essayed the difficult task. Jacob Ham[b]lin, by the way is brother of the ex-Vice-President of the United States. They struck the San Raphael [sic], that flows through Castle Valley, emptying its waters near Gunnison's Crossing. Discovering the error they continued the search for the Dirty Devil River, but gave it up at last, reporting their failure to the Major. Powell then sent Ham[b]lin and Dodds again to seek the sombre streams. They took the trail we now follow, and found what

128 Someone was pulling Clem's leg, or he was pulling that of his readers. The reference is to Hannibal Hamlin (1809-1891), who was Vice-President during Lincoln's first term. He was born at Paris Hill, Maine, the son of Cyrus and Ann (Livermore) Hamlin. Jacob Hamblin, the Mormon frontiersman, was born April 2, 1819, at Salem, Ohio, the son of Isaiah and Daphney (Hayes) Hamblin. A short sketch of Isaiah Hamblin appears in Frank Esshom, Pioneers and Prominent Men of Utah, Salt Lake City, 1913, pp. 910, 911.

129 This clarifies the route of various parties sent out to find the Dirty Devil. Dodds and Hamblin apparently went south from Gunnison Crossing (Greenriver, Utah), a natural and comparatively easy route. One day's travel from the San Rafael would have brought them to the Dirty Devil, but they turned back too soon. See note, p. 290.
has been called Birch Creek. This deeply-channeled watercourse was followed until it became evident that no train could be taken down. The scouts then returned, believing they had accomplished their errand. Major Powell had stated that the Dirty Devil was the only stream of any size between the San Raphael and the Pahria; hence the error. At Kanab, the trainmen received a dispatch to hurry forward supplies to Crossing of the Fathers, some 30 miles below the Devil, and just above the San Juan. From these details it will be seen how precarious and uncertain, as well as toilsome and dangerous, is Colorado explorations. Had a letter miscarried, or been delayed, the bones of our party would now be bleaching on the shores of the desolate river. We would not have had strength or provisions to last to the Pahria, particularly as we were encumbered with worn and ailing men.

May 29. Again in motion, we ascend Johnson’s Cañon. Perpendicular walls, from 200 to 500 feet high, rise on either side veined and mottled with all the colors, from gray to vermilion, with darker shadings, here and there, of lava-rock. Emerging from the painted pathways, we find rough country beyond. To our left, Table Mountain [Table Cliffs, of the Aquarius Plateau], 2500 feet in height, is conspicuous. The sides we see are a beautiful pink, surmounted with ledges of white limestone. Against this brilliant background, the deep green of the pines shows handsomely. Soon the barren plain stretches out before us, with its wearisome world of sage. There are scentless flowers in shady places, bright, hued, and welcome to the sight. The pride of the desert, the queen of the mountain, is the many-tinted cactus. There is a great variety of new and handsome species of this plant in Utah. Mrs. Thompson has safely forwarded living specimens to botanists and friends in the States. A field of many acres, filled with blossoms varying in color from the purest white to the deepest crimson, with yellow, pale-pink, and scarlet intermingled, forms one of those rare sights that partly repay the traveler’s toil. The prickly stalks and fleshy leaves of the cacti are fit emblems of the arid fields and desolate rocks from which they spring; but the delicately-pencilled flowers awaken thoughts of the dawning days when we will lose the rein, drop the oar, and hasten to fields more fertile. Having reached a ranch near the terminus of the cañon, we there engaged an Indian guide.

The dusky son of the desert put on his more gorgeous apparel; it consisted of the crown of a white felt hat, unencumbered with roof or rim. Extracts from a song of a shirt, and a pair of mocassins, completed the airy and simple attire. The pure American counts his riches in squaws and horses, not by frilled bosoms and paper cuffs. We gave the guide a horse to ride. The steed
did not prove a success for bare-back equestrianism. He was an articulated skeleton haired over and should have been labelled, "To be well shaken when taken." We heard here the sequel of the miners' story, as told in my last. The main body of the miners left Pipe Springs with commissary well stocked with whiskey. When near St. George, a free fight was indulged in, and one man killed. The rest are in jail. The Spaniard that came to the settlement stripped and forlorn was detected in an attempt to steal one of our boats. His clothes were found secreted in a sage-bush. Such is "roughing it" out West.

Crossing gulches, climbing, descending, afoot, on horseback, slowly we proceed where man has seldom trod and all the Gods of Terror dwell. Buttes, cliffs, mountains, of ever-changing color, shape, and size, are constantly met—some bare, some sage surmounted, others crowned with evergreen. At intervals are miniature valleys, each with a winding water-course set with greenest verdure, pleasantly relieving the barren desert between. Now and then we pass through forests of cedar and pine, whose cool shadows and spicy odors prove most refreshing. Nature is grand in all the views presented in this far region; but there is an oppressive feeling of loneliness, and silence, and cruel fate. Tom, the Indian, made a detour to a pretty park, carpeted with grass, and sprinkled with flowers. He wanted us to stop until he could return and tell his people that seeds could be got there. The tribe gather certain sorts of seeds for food. Pack-trains cannot halt for dinner; we toiled painfully on, making no stay until nightfall. Camped at Deer Springs, in a charming little valley, one mile by three in length and breadth. Adair took a fancy to the spot, on account of its abundance of water, wood, and grass. He accordingly put in a pre-emption claim, by describing the boundaries on a stake fixed in the ground. A range of cliffs shelters the lower end, and the ranch may at some time be valuable. At a small pond near [Adair Lake], we found wild duck. After shooting for a time, the wary birds hid in the rushes along the shore. We set fire to the grass and reeds, and managed to get game for breakfast.

Three days on the skeleton proved too much for Thomas, our red brother. He complained of many ills. A sack of flour, cached last summer by our men in a tree, beyond the reach of wolves, we failed to find. "Tom" was asked what he knew about stealing flour. The innocent Ute could not remember. As he had not been accustomed to eating, we feared that the sudden change of full and regular meals would prove fatal. A blanket was given him, and he started homeward in a heavy shower, making the 3 days' trip by train in one and a half, afoot.

The farther we proceed, the more rough and broken the country appears. Gullies grow more frequent, deep and dry.
We still keep Table Mountain to our left. Its polished surfaces sparkle and glitter in the clear rays of early morning, and warmly blush in the softer light of sunset. To change the comparison, this singular mountain suggests a monster melon, sliced and standing on end. It is exactly the color of a ripe, red core; the pines that grow on ledges and benches, black specks at this distance, look like the seeds.

The region through which our route now lies was first seen by white men 5 years ago. In 1867 [1866], a Mormon expedition left St. George, with 100 men and 75 pack-animals, led by James Andrews,1 to explore this terra incognita. They struck Birch Creek [upper Escalante River]. After wide wanderings, they reached Beaver City, and from there set out homeward. At the time these pioneers were in the wilderness, the Navajos made a raid from Arizona among the frontier-settlements. The Pah-Utes were compelled to show where the fattest herds were feeding. The white men in charge of the stock were killed, and their clothes and effects given the Utes as a reward, by the more wily and powerful Navajos. Soon thereafter, a party of pursuing Mormons overtook these Utes on the Kaibab, and seeing them dressed in the garments of the murdered men, shot 7 of them. Two of the band had 3 relatives killed. The bereaved warriors put on their feathers and war paint, and vowed vengeance in the names of all their deities.

Using the romancer’s privilege in relating this incident, the scene shifts to the exploring expedition. Six or eight of the younger Mormons being sick with ague, Andrews [Andrus] sent them back, with 15 horses that had given out. One of the horses had a remarkable aversion to Indians, and stubbornly refused to go near them. Andrews directed this animal to be kept ahead, to give them timely warning in case of ambush. Young Everett [Elijah Averett] took the lead in person, disregarding the wise injunction given at starting. Meanwhile, the savages, following the travelers, left the larger party, and covered the trail of the lesser. Arriving at a favorable locality, the attack was made. We now are at the very place [Averett Wash]. Up the steep path before us, the little train came toiling up in single file. In the shade of yonder cedars, whose dense foliage deepens the darkness of the gulch below, stood the determined Utes. At the first fire, Everett fell dead. His young companions were so terrified by the sudden and fatal shot, that they sought safety in instant flight. Some kept up the wild retreat until they reached the main body. One was found wandering delirious among the rocks. One young fellow, of 16, hid behind some logs, and watched. He saw the Indians run down and take the dead man’s

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1The James Andrus expedition of 1866 actually discovered the Escalante and Dirty Devil rivers, but did not recognize them as new and unnamed streams.
scalp and valuables. The lad had a repeating rifle, with which he kept the Indians covered. He did not dare to fire, however, fearing, as did his comrades, that a larger force was near. Listening to his sad story, we stand at Everett's grave. It has been rifled, and presents a sickening spectacle. We replace the remains, hoping they will not again be disturbed. Andrews kept his men together after the occurrence. The Utes made an attack on the house, and were repulsed. I met the father of Everett at Windsor Castle. The place would have been haunted with imaginary horrors, without any touch of the tragic to augment its evil seeming.

We had crossed Clear Creek, and at evening camped on the Pahria. The grass and underbrush, dense and matted, proved inconvenient. We set fire to it, and, when a space sufficiently large had been cleared, we fought out the ever-enlarging circle of flame, to prevent a destructive forest-fire. In the ashes a cooked rattle-snake was discovered. Luckily we took him roasted rather than raw. His snakeship was evidently on his way from the cliffs to the water below. Next morning we traveled up the Pahria to its head. Found a blanket, shirt, and empty bottle. Some suggested foul play. More probably the articles were left by miners. The river is muddy and swollen. Jack, having left his ammunition, went back for it. One of the most vexatious and arduous experiences of mountain travel is climbing a hog's back. We have one now before us; a clay bank a thousand feet high, steep and slippery. It is deeply channeled by water-courses, so that man and horse have the choice of falling to the foot or rolling into a chasm. A heavy storm of rain pouring down upon us rendered the ascent still more perilous and difficult. "Yager," an intelligent pack-horse, found his pack sliding to stern, and began backing. Upon reflection and a review of the situation he saw that many plunges would bring on his "last sickness," and waited patiently for aid. It is a common practice among the horses to kick and back until the pack is shaken off. Often brute and burden go rolling to the bottom.

Since starting, we have gradually ascended, and have now reached an altitude of 2000 feet above the plain. At the top to the cliff, Potato Valley begins. It is 10 miles long, one across. The formation is red sandstone. Gold-digging, it seems to me, will not pay here. Good crops can be raised without irrigation, as there is plenty of water. It is so high, the weather is cold; so remote, there could be no markets; so inaccessible, roads are impracticable. Magnificent pine trees here abound, straight and tall—200 feet high. Three miles down, a spring bubbles up at

See Dr. Gregory's note, p. 129.
the foot of a projecting cliff. The valley takes its name from a sort of wild potato found there. It is a plant having two small bulbs attached to its root, one growing below the other. We are sadly deceived, hoping to find some nice edible variety. Our contributions to the wolf are now considerable, comprising a rifle, a pair of spurs, a sack of meat, and a leather canteen. There is nothing mean about us; we throw things about indiscriminately. Near this locality we saw coal cropping out, and ledges of bituminous shale. Following the sinuosities of the valley—in one of the rain-storms constantly recurring—we find it turns sharply to the south, and canyons, but not closely. We struck at this point a lateral branch of the creek, that we supposed was a tributary of the Dirty Devil.

The canyon opens out into a second valley; beyond we find the stream much swollen; could not cross and went into camp. The distances traveled, and stations passed, thus far, are as follows: Kanab to Springs, 8 miles; Johnson's Ranch, 9 miles; Adair's Claim, 17 miles; Pahri River, 18 miles; Potato Valley, 20 miles; present camp, 10 miles. We have named Adair's Ranch "Swallow Park," from the myriads of those birds flying over the sunny slopes. [George] Adair is our Indian interpreter, a late acquisition to the party. He abounds in jest and anecdotes; his yarns about the camp-fire would set up a Dime Novel Company for a twelve-month. Adair accompanied Ham[b]lin in the pursuit of the naughty Navajos last fall. When they arrived at the Moquis Towns, a little dog, belonging to Ham[b]lin, attracted the attention of the juvenile Aztecs. The cur, after being badgered and teased for a time, jumped from the top of one of the low houses (on which they were collected in council) right into the midst of the little people, and began barking and biting viciously. The youngsters started off, frantic with fear, and yelling vociferously; while the dog, in hot pursuit, nabbed the flying feet and bare legs with wonderful industry. The Navajos shrieked with laughter at the din, and were delighted to see so small an animal do so much execution. They asked Adair if he had a big dog, as spunky in proportion as the little one; if he had, they wanted him, regardless of cost. These free-booters of the plains are merry fellows, and rank among the most intelligent of all Indian tribes.

Dellenbaugh often enlivens camp with sharp sallies. Being out late one night, we fired the signal shots, to direct the wanderer home. Receiving no answer a second volley was fired. Soon a familiar voice cried out, "Confound you! what are you shooting

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127 This description does not seem to be sufficient to permit a scientific identification of the "wild potato."

128 In the first part of this anecdote, Clem seems to be discussing the "Moquis" (Hopis), but before he is through, he is talking about the Navajos.
at me for? I’ll let you fellows know where I am with my Winchester.” We shot into the air, and could hear as did Fred, the whizzing of the bullets. He thought we were practicing at his sacred person. In addition to a clever pencil, he has another accomplishment—that of sleep-walking. When all are wrapped in slumber, we will be startled by a loud war-whoop, or other ear-piercing cry. Each man will grasp his gun, and scud under bare poles for the nearest sage-bush, momentarily expecting the advance of the entire Indian nation. The mischievous artist then yawns innocently, while we grumbling emerge from the shadows, joining in the chorus of “Confession to the cuss!”

Camping in the rain being a necessity rather than choice, tents were put up and out-door work suspended. We watched the rushing, murky, rising waters of the creek. Listening to the drip of the rain on a tarpaulin roof is somewhat different to the cottage-chamber bed of the old song. As a salad for the solitary, we used greens and wild cabbage. Storms abating, we moved down the valley to a point where the creek cuts through the rocky ridge that forms its southern rim. Fennemore nearly lost his life while crossing a miry place. His horse fell, and, in struggling to rise, kicked his rider on the head. The stunned photographer hesitated about “passing in his checks,” for a time, but finally concluded to keep them for the present. Thompson and Dodds, coming in, reported vast and level plains, and thousands of acres of meadow-land, stretching out beyond the ridge. Farther down the creek, we camped in the cañon’s wall. Being detailed for a picture-taking tour, I descended the chasm. The cliffs on either side are of gray sandstone. This stratum contains numerous pockets that hold water for a long time. The gulch grows steeper and deeper, until at last we look sheer down 2000 feet—quite a feat by the way. Has the reader ever tried it? If not, he can gain no idea of the distance from the mere statement of figures. Still farther on, a natural bridge, an arch of solid rock, spans the abyss. It has been sculptured in the long years by invisible but tireless artists. Here also are found Shinemos designs, and a trail, more than an inch deep worn in the solid sandstone by the tread of human feet. To the left, a line of ruddy cliffs can be discerned; the shining sides of Table Mountain can be seen through the haze. At the terminus of the line of cliffs on which we stand, Mount Seneca Howland [Navajo Mountain] looms large and grand.

Returning to camp, we learn with surprise and chagrin that we are not upon the Dirty Devil, at all, and could not reach that stream by the route now being taken. In fact, the farther we proceed, the more uncertain become our prospects for finding the mysterious river. The D. D. Mountains were seen, and
it is now certain that we are on the Birch Creek of the early explorers—the same creek mistaken by Dodds and Ham[b]lin for the Dirty Devil. The Professor now remembers this little tributary of the Colorado as what was put down on the maps as Roaring Creek. Densely shaded by willows, and for a long distance hid in the hollows, the waters tumble noisily from the rocky ledge, splashing loudly at last in the main river; hence the name given it by our topographers. The query that presents itself in life’s solemn moments is the one we now discuss with mingled feelings: Shall we ever see the Devil?

By the time this letter is in print we shall be shut in by the Colorado’s canioned walls, and mayhap the question will then be solved.

Clement Powell.

IV

[Undated letter.]

As stated in last communication, our series of canion views was discontinued for want of photographic material at the mouth of Dirty Devil River. One boat was cached at that point. The country south of the Base-Line having been surveyed and mapped, it now became necessary to continue the exploration in a northerly direction. The party selected for this purpose was accompanied by a photographer and crew, to take the “Canonita” down the river to our old camp, where the fleet awaited her.

May 29 we started northward to the Colorado, well mounted and equipped, fearless of danger, hopeful of speedy return. The country became rough and broken; the trails obscure and difficult. Our Indian guide proved worthless and was soon dismissed. After a long and fatiguing journey and delays from floods and rains we reached a swollen stream, supposed to be the one at the terminus of which our boat was hidden. Fennemore was detailed for river work. I went inland in search of the picturesque. Following the windings of the canioned creek we obtained many fine views. Climbing to the top of a high cliff a wonderful panorama unfolded before us.

\^ Probably some small side gulch in flood. Clem’s language does not describe the mouth of the Escalante River.

\^ Reprinted from the Chicago Tribune, clipping pasted in a scrapbook of Clem’s letters in the New York Public Library’s Dellenbaugh Collection. The Tribune has been searched from May 1, 1872 to July 31, 1873, without disclosing the issue in which this letter was printed.
ALMON HARRIS THOMPSON

"Harry," or the "Prof.," as he appeared in the field about 1872. A portrait
of Thompson as he appeared in later life is found in this Quarterly, 1939, vol.
VII, p. 10.

Courtesy, William Culp Darrah
Miles on miles of level and gently undulating plateaus stretched to the far horizon. The tracery of ravines and cañons, intricate and multitudinous, appeared like frost-work on a glittering ground. Not a vestige of vegetation or sign of soil was anywhere visible. Not a bird in the air, not a moving figure on the land, no life anywhere. South and east, directly before us, stood a trio of mountains, grim, desolate, lava-crowned. No white man has ever set foot upon their rugged sides.

We are in a region hitherto shunned by all living things. The Sierra Abajo just showed its crest beyond the Colorado. Faint and far rose the Sierra la Sale [sic], overlooking Grand River. To the west Mount Howland lifted high above the desert its forests of pine. These 6 lofty peaks watch in silence their grand but repellent realm. The eternal stillness, the utter solitude, the immense surface of earth and sky, give an overwhelming sense of the littleness and helplessness of man. Returning at nightfall the blaze of the camp-fire seems brighter, and the greetings of comrades doubly cheerful, in contrast with the dark and voiceless world without. Thompson reports that we are on the wrong trail; that the stream we seek is many miles beyond; the road thither is over a desert, seemingly impassable for any traveler without wings—a labyrinth of gorges, deep, steep and dry.

Want of water is the chief obstacle to the exploration of this country. The air is dry; sand flies in clouds; springs and creeks are few and far between. No animals but those desert born and bred could long live here. We water our horses at a "pocket" hollowed in the side of a cliff. One by one the sure-

Spanish explorers, and afterward French-Canadian and American trappers had, by 1840, discovered and named practically every stream, mountain, and landmark in the West; but because of its peculiar geographical isolation none, so far as the records show, had ever penetrated that vast area bounded on the north by the San Rafael River, on the south by the Virgin River, on the east by the Colorado River and on the west by the high Utah plateau. Spanish miners from Santa Fe are rumored to have reached the Henrys sometime after 1776. Denis Julien, a French-Canadian trader and trapper, had been on or along the Colorado in this section in 1836, as shown by his inscriptions. Four Mormons, hiding from the law, are rumored to have found the Dirty Devil about 1862. The James Andrus expedition of 1866 crossed the upper Escalante that year. Other Mormons may have entered Potato Valley soon afterward, but if so their findings seem not to have been known to Hamblin or Dodds. In Capitol Reef National Monument are found the names of J. A. Call and Wal. Bateman, dated Sept. 30, 1871, who list themselves as prospectors. They would of necessity have followed the Dirty Devil for a considerable distance. But none of these, legendary or factual, left any known record. It remained for Thompson and others of Powell's expedition to traverse and map this unknown land, naming its undiscovered stream and its mysterious mountains—the last great natural features to be placed upon the map of the United States.
footed fellows slide down some 50 feet of sharply sloping, slippery stone, and after quenching thirst scramble to the top.

Provisions will not last the lengthened journey. Jones, Adair and I dispatched for more. On 13th June we left Kanab with rations and mail for the party. At Johnson's Ranch we heard of the nomination of Grant and Wilson. Politics are here discussed from a Mormon standpoint.¹

Our route takes us up the bed of a dry gulch. The walls are several hundred feet in height, and of gray and dark red sandstone, curiously eroded. Three miles up the cañon there is a smooth, bare rock covered with ancient Aztec inscriptions. This is the place of fashionable resort by the Johnsonites—from whom the cañon is named—on general holidays and Sunday afternoons. Further along we find marks made by the waters long years ago. The top and bottom stratification show formation in still water, as indicated by diagonal lines. Between these the action of rapid currents is shown by horizontal strata. At another place the floods have worn a passage in the shape of an arched gateway, that is called Eagle Point. Side cañons appear at intervals, opening vistas of varied views. Near the terminus of the cañon is an isolated ledge of lava rock, poured forth from an extinct volcano near. All the peaks in this vicinity are volcanic, and are variously named, as Mount Trumbull, Mount Kolob, &c. Riding over the plateau we get occasional glimpses of deer, porcupine, pine hens and wolves, but rarely obtain a shot. The Indians are more successful, supplying their camps, at this season, with many a "buckskin." Near Potato Valley a band of Pah-Utes was gathering grass seed, one of their sources of food supply.

Grasshoppers are reported having done great damage among the frontier settlements of Utah during the past season. We found an army of them marching westward through the cañon. Climbing up and down gulches is very hard work; camping at night without water is still worse. These are common experiences, to which the men either become inured or break down and return. The plateau we are now traversing is heavily wooded with evergreens. Blue grass abounds wherever there is earth and moisture. On every hand are terraced cliffs. In the distance tall columnar rocks of vermilion color. We camped in the valley of the Pahria. The scenery is fine. There is the same peculiar sandstone formation here that gives Mound Cañon on the Colorado its suggestive forms. The summits of the cliffs are carved in rounded outlines. In the limestone we have sharp, angular needles and projections, spires instead of domes. One butte of buff sand-

¹That is, according to how the interests of the Mormon people were affected.
stone strikingly resembles the Mormon Tabernacle at Salt Lake City. The rock is worn perfectly smooth and glistens in the sun.

Arrived at Potah [Potato] Valley, our rendezvous; we were disappointed in not meeting the party. Then began a period of waiting and suspense. The first few days we enjoyed the rest, having for weeks been constantly in the saddle. Photographs were taken of everything in sight worthy a place in our collections. The latest mail was read and reread. Political discussions whiled away some of the dragging hours.

Those of Mormon faith electioneered for Greeley to the tunes of all his "organs." One from the States voted solid for the Administration, quoting from the Inter-Ocean. Another maintained a decent neutrality. Meanwhile our anxiety for Thompson and his men steadily increased. The route they proposed taking leads through the range of the Red Lake Utes. This tribe is proverbially hostile; rumors were rife at Kanab that it is now troublesome. In July or August last these Indians killed a party of miners. The Mormons, hearing of it, supposed our expedition was massacred. The same restless redskins shot Gunnison and his engineers.

We concluded at last to follow the trail of our missing comrades. Had not gone far when the prints of moccasined feet and a barefooted pony were discovered. After covering the trail some distance the Indian tracks diverged to the right and followed a creek. It seemed probable that an ambush had been meditated. A surprise could be easily effected in this network of gulches and ravines. Ever alert ourselves, we followed the trail through pine thickets, over chasms, and up a mountain side. Lava boulders impeded our course. It is difficult to follow a new path over these hard surfaces of melted rock. We grow skilled in campaigners' craft, and follow the progress of the pioneers by the scratches, here and there, of iron hoofs. It is wonderful how horses can travel in this rocky wilderness. The hardy mustang is bred to the business, and climbs nimbly as a cat. We followed far, but were obliged to return unsuccessful in our quest. Found a band of wolves circling about our camp, preparing to seize the rations. A few shots scattered the vociferous thieves. Again a succession of dull days slowly passes, and we are determined to move to the front. Bread was baked, ample stores of "jerky" taken, and off we go. Noticed deserted wickiups.

The name "Red Lake" was not commonly used. Later Clem says it was the source of the Dirty Devil River and had been visited by Hamblin. If correct in this, he refers to Fish Lake, which was the summer headquarters for a large band of Utes which ranged in winter along the Dirty Devil and Escalante rivers. They had little contact with the Pahvant Utes who killed Captain Gunnison in 1853.
probably left in the spring by the Red Lake Utes. We found the boys' first camp in a forest of stately trees by the side of a snow-fed stream. We pushed on over the boulders, huge and round, keeping always in the shade of the pines. Camped at night in a grove of quaking asps, by a mountain brook. Blue grass, knee-deep, made luxurious couches. Crossed, next day, a larger stream; a few miles farther found a scene of surpassing loveliness. Here, on the summit of a mountain, lies an enchanted lake, secluded, beautiful. It is nearly round; \( \frac{3}{4} \) of mile across; the waters clear, cold and sparkling. Fleets of feathered fowl float on the mirror-like surface. On the farther rim peaks stand about, environed with cedars, crowned with pine. From out the lake a brook takes its noisy course southward, through aspen groves. Undine, with all her train of nymphs and naiads, might hold their revels here. A fringe of foliage makes an appropriate setting for this gem of the mountains. Here we lingered, hoping for the return of those we sought. Shoulder ing a rifle, I started for a high peak from which to take observations.

No description I can give would faintly outline the grand picture presented or convey an idea of its beauty. Southward, looming large in the foreground, are the Unknown Mountains. They are five in number, the highest in Utah, their altitude being more than 10,000 feet—Solitary, volcanic piles rising from a desolate plain. Northward stretch the Wasatch Mountains, the highest peaks white with snow, their bases green with verdure. The course of the Colorado could be determined by the well-known peaks that rise beyond, such as Elk Mountain, and others before mentioned. Still farther to the southwest is Mount Navajo. Between them all is a cañoned desert, "waste and wide." To one looking over such a vast and nearly level area, through hazy air, it seems as if the horizon was the rim of a great sea. A mirage of water and shade often tantalizes the thirsty traveler, faint from the heat and glare of the plain.

We are on the ridge dividing the valleys of Great Salt Lake [i.e., the Great Basin] and the Colorado. A few miles farther, to the top of the range, gives a view of both. Beaver and the settlements about Sevier are over the crest, some 2 days' journey distant. The southern slope of the Wasatch has many grassy valleys, watered by miniature lakes, and affording excellent pasturage. We did not dare to go farther. If the rations left

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\textsuperscript{a}The top of the Aquarius Plateau, or Boulder Mountain, contains hundreds of hidden lakes. It would be impossible to identify this one specifically, but it was probably near the head of Pleasant Creek.

\textsuperscript{a}The Henry Mountains are by no means so high as the Uintas, but they rise more abruptly from the surrounding terrain. They vary in height from Mt. Holmes, 7,930 feet, to Mt. Ellen, 11,485 feet above sea level.
by us in Potato Valley should be stolen by Indians, or other
"varmints," starvation and the most serious consequences would
ensue.

Returning we saw fresh tracks of 4 shod horses. We exer­
cised our Yankee gift of guessing in vain to explain the dis­
covery. Not far beyond a trail of shod horses appeared, con­
vincing us that our men were homeward bound, having made a
detour from their first route; hence we had missed them.

Arrived at camp we found the party in possession, safe and
sound. The meeting gave us new spirits, and considerably re­
vived the old ones. Thompson struck a spur of the Wahsatch
and followed it until opposite the Unknown Mountains, then
crossed the deeply channeled sandstone desert, climbed the
mountains and made observations therefrom. Smoke was seen
in the distance, sure sign of Indians. They camped that night in
a gulch, watching sharply. Next morning the little party sur­
pried the Indian village, riding within a few yards of the lodges.
Two old squaws gave the alarm and in a twinkling every brave
was scattering among the sand hills. The squaws advanced,
brandishing knives and screeching: "Impo-per-shog?" (What do
you want?). The boys were not much scared. An old man left
behind, so frightened he could not fly, finally advanced to the
parley. The miscreants are ever ready to steal or murder when
their victims are defenseless. A show of repeating rifles however,
scares them wonderfully. Cigarettes were smoked, and at last
the skulkers came straggling in. Inquiries about the direction to
the Dirty Devil now proved of little avail. Thompson made
proposals for a guide, but the redskins intimated that a gift of
a horse would be an acceptable preliminary to negotiations. Last
summer Ham[b]lin, our scout and train commander, went to Red
Lake, where the river heads, and offered a horse and trinkets to
be shown the way. The Utes refused, declaring that red men
afloat might get down, but horses, never. The trip was then
therefore given up. The "Prof.,” more persevering, made the
effort and succeeded, 15 days in all, being required. The boat
was found and was started down the Colorado with a photo­
grapher and 3 men. 385 The mountain work was very severe.
Furious snow storms and freezing cold weather were experienced
on the high and rugged peaks. Glowing descriptions were given
of Cascade Creek. 386 It is a brook, crystal clear, falling a thousand
feet from the mountain side, sparkling and glowing with prismatic
tints. The scenery of the Wahsatch seems attractive to men
accustomed for a year to landscapes of sage and sand. The first

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385Pennemore, Hillers, Dellenbaugh, and Johnson.
386Cascade Creek probably refers to Trachyte Creek, largest stream in
the Henrys, along which Thompson traveled.
night we were out after the prodigals they were camped 2 miles below us on the same creek.  

Once more at Kanab, preparations for running Grand Cañon are now in order. We learn that our suspicions of foul play by the Indians were not unfounded. The party with a pony that followed Thompson's trail, finding the white men too well armed and watchful to render an attack a safe investment, turned toward Beaver. A Mormon was shot on his way to mill, his 4 horses and other valuables stolen, wagon and load destroyed. The trail of the thieves, home returning, was the one that puzzled us. About the same time Mr. Muller [Dan Miller], the Navajo Indian Agent, was killed by the Elk Mountain Utes. Miller, with 3 men, was on his way to call a council of that tribe, distribute presents and get the Indians on a reservation. When near their camp he was surprised at daybreak and shot. His men escaped. Thus the sequel shows that the frontiersman—in real life as in the sensational romance—must gain his knowledge of passing events and base his actions upon such slight signs as a cloud of dust on the desert, smoke on the mountain, a chance footprint by the waterside, a broken twig in the forest.

Clement Powell.

Clem does not give a very clear account of the activities of Thompson after Jones and Clem went back to Kanab for supplies. From Potato Valley Thompson's party continued north to what they called Table Mountain, later named Aquarius Plateau but locally known as Boulder Mountain, discovering and naming Boulder Creek, Pleasant Creek, and others. From this elevated point they could see all of the Henry Mountains and some features of the Dirty Devil drainage area. Capt. Dodds had almost reached this point previously with Jacob Hamblin before turning back. Now Thompson discovered, after carefully studying the country which lay spread out like a map below, that the stream he took to be the Dirty Devil was in fact an undiscovered and unnamed stream entering the Colorado farther south, the mouth of which Major Powell had failed to identify on his original voyage through Glen Canyon.

Making their way down Pleasant Creek, they named a side stream Tantalus Creek, then continued over a difficult, broken, dry desert to another stream they called Trachyte Creek, which emptied into the Colorado opposite the stone tower they had seen in Glen Canyon. Realizing they were too far south, Thompson left this canyon, crossing north to another now known as North Wash, which he followed to the Colorado. Two miles above this point he finally reached the mouth of the Dirty Devil. They did not, however, explore it any great distance upstream, the determination of its upper course being left to others.

While passing through Glen Canyon in the "Canonita," Dellenbaugh, Hillers, Pennemore, and Johnson kept a careful lookout and on July 8, 1872, finally identified the half-hidden mouth of the Escalante River. They reached the Paria's mouth on July 13, and 2 days later were joined there, as Clem's fourth diary makes note, by Clem and Hattan, in advance of the rest of the party.

For a more detailed account of the massacre of Miller's party, see J. H. Beadle, Western Wilds and the Men Who Redeem Them, Cincinnati, 1875, pp. 251, 252.
July 10th, [1872]. Spent the morning at Prof.'s tent. Wrote a letter to Morris. Prof. told me that Andy and myself were to go down to the Pahria to meet the boys on the river. Ate dinner at Jacob Hamblin's with Prof. and wife. Rained about all day. Read one of my letters in "Chicago Tribune." Spent the evening at Lyman's pleasantly. Plenty of Indians with berries to sell. During the evening a squaw being sick, a regular Indian pow-wow was held; 'twas interesting. Cousin Nellie sent down some cake for supper.

July 11th. Got my things ready for the river, &c. Went down after the horses and drove them up. Mailed letter and my diary No. 3rd to Morris. Loaded up the wagon. Had dinner. Bade Cousin Nellie farewell and then Prof., George, and Jones started for the Navajo Well, Andy and I following with the wagon. Reached it about an hour after dark. Mrs. Adair sent a small cheese down to the boys. Lyman Hamblin gave me the Navajo blanket. I gave him an order on the Maj. for $15 to buy me some Indian traps on his visit north.

July 12th. After breakfast Andy and I left the party to climb point "B" while we continued our journey to the Pahria. Had not gone over 3 or 4 miles before we got stalled; had to unload the wagon and make a portage. Went a mile or so farther and was stalled again and, of course, another portage longer than the first. The roads are very bad. Lucky that we have plenty of water in kegs, for the weather is fearful hot. Commenced climbing the Buckskin about 4:00 p.m.—reached the

Here begins Volume IV of Clem's journal. On the verso of the second flyleaf appears a message as follows:

Dec. 31st, 1871

Brother Clement,

This is a dark and rainy Sunday, the last day of the old year, a time most opportune for retrospection. As the year passes in review many tender memories of you come thronging. In preparing for the year that dawns tomorrow you enter largely into every plan. In times of peril and privation, in hours of weariness or pain, let this thought cheer and stimulate,

you are not forgotten at home.

Soon this little book will begin its long journey to Kanab; its blank pages to be filled with the record of your daily life. Seek information from all sources, sharply observing men and manners. In the country of wonders through which you pass, Nature meets you face to face with lessons in rock and river, plain and valley, wind and cloud—study them well. Write constantly and minutely, collect large stores of facts and a library of description. When classified and arranged, in time of larger leisure, it will prove the most interesting and instructive story of your life.

Faithfully

M. B. P. [Morris B. Powell]
summit at dark and camped. Could find no water for the horses. Have made about 25 miles. Camped in among the pines. Feel very tired and hungry. Had a good supper and bed.

July 13th. Up early and breakfast over. Had considerable trouble in getting the wagon started. Reached House Rock Valley by 10:00 a.m. Road better. At one place I hunted for water but could not find any. Three miles farther on came to House Rock Springs. Left the wagon in the road a mile from the Springs. As soon as the Maj.'s Thunderbolts were unhitched they lined out for the Springs (they recognized it); we followed on the mules. Everything looked natural. Found a stone hut built near the Springs, but no one in it. The animals drank heartily while we filled our kegs. Nooned for a couple of hours, and then started through the heavy sand for Jacob's Pools, 14 miles away. Reached them by sunset. A brush hut and a couple of pretty Mormon girls are the latest improvements. The girls said that their father, John D. Lee, was at the Pahria. Supper and then our blankets.

July 14th. Had considerable trouble in finding the horses, but finally got started on our way. The road is heavy with sand and the wagon heavily loaded. Saw Axe Mtn. across the Colorado. Marble Cañon presents a curious spectacle; it seemed like a hole in the ground. Camped for noon at the second creek 15 miles from Pools and the mouth of the Pahria. Hitched up again. Commenced to rain. Toward evening met Lee on his way back to the Pools. Also met Johnson going back to Kanab. Said that the boys had got in yesterday, the 13th; that all was O.K., &c; that they were out of grub. Gave him some sugar and coffee. Went within 6 or 8 miles of the Pahria and camped. Found that I had lost my Navajo blanket from the wagon. Went back some 3 or 4 miles to where we met Lee but could not find it. Hope that Lee or Johnson will. Went to bed pretty well tired.

July 15th. Our way this morning led us over some steep gullies and at one place we had another portage to make; worked hard in the broiling sun. The road is very winding. At last we got within a mile of camp and came to a bad sideling place. Concluded to get the boys to help us. Went down to the Pahria and called to them. Of course we were glad to see each other. After a good deal of trouble got the wagon to the Pahria (could not cross it) under a clump of willows. Our weary journey is over with, thank Heaven. Gave the boys their mail. While waiting for us the boys have been boarding with Mrs. Lee, No. the 18th.\footnote{This was Emma Batchelder Lee, a handcart immigrant from England, actually wife No. 17. Lee's wife, Rachel, was No. 6. After Lee's execution in 1877, Rachel moved to Thatcher, Arizona. Emma remained at the ferry}
cultivated ground. We were invited to a good substantial dinner. Mrs. Lee lives here with 7 small children, alone part of the time. Lee dividing his time between here, the Pools and House Rock. We spent the afternoon bridging the Pahria or Pah-Weep, rather, the proper Indian name. 'Tis a dirty devil of a stream. Took supper at Mrs. Lee's, who invited us to breakfast and to work on the dam; we accepted both invitations.

July 16th. Breakfast at Mrs. Lee's, while the boys worked on the dam. I went up the cañon 4 or 5 miles to see after the horses. Came back in time for a gay dinner at Lee's and some home-made beer. In the afternoon had a good bath in the Colorado; did some washing, &c. Supper at Mrs. Lee's.

July 17th. Cooked breakfast in camp and commenced caulking and repairing the "Emma Dean." (I must not forget to mention that Cousin Nellie sent down 3 beautiful flags for the boats.) Mrs. Lee sent word to us to come and help fix the dam again; it had broken away during the night. All went but Jack, who was fixing the boat. While fixing the dam a freshet came sweeping down, undoing all that we had done and preventing us from doing more. On coming back found a nice dinner waiting for us. Went over for Jack but found our bridge swept away. Andy swam across while we made another one by throwing some poles across the stream. Read most of the day.

July 18th. Jack, Andy and I worked on the "Dean" in the morning. In the afternoon commenced a letter to Morris. Do not feel very well.

July 19th. Sick almost in the morning. Read a little. Fred got dinner and Andy painting the boat. After dinner Mrs. Lee sent word that our horses were trying to take the back trail. We went over and drove them back up the cañon. Received another invitation to work on the dam. Accepted it and lost our shovel; Andy swore. Supper at Mrs. Lee's.

July 20th. All the morning in packing the rations, &c., across the Pahria; had to wade the river. Weather very hot, thermometer standing 110° in the shade. Fenny got dinner. Read and slept the rest of the day. We are beginning to look for Maj. & Prof.

July 21st. Writing to Morris during the forenoon. "Brother" Lee made us a visit in the afternoon and regaled us with the doctrines of the Latter-day Saints; boasts of having 18 wives and 62 children. He found my blanket shortly after he left us a week ago today. Rained most of the afternoon. Think until removed by the Mormon Church, then went to Holbrook, Arizona, where she married a man named French and became a famous frontier nurse and midwife.
Lee is a little crazy. Had a swim in the river; spent the evening singing.

July 22nd. After breakfast we hauled the "Nellie Powell" out from her shelter and found her unseaworthy, so much so, in fact, that we could do nothing with her at present, and so put her back again. Washed up my entire outfit of clothing and then washed myself, shaved, &c. Wrote up my diary in the afternoon. Read some. Jack, Fred, and Andy crossed the river in the "Emma" and got the oars that were cached over there. I prepared supper; made slapjacks, &c., &c., &c. The river is steadily falling and growing colder. We are beginning to wonder why the Maj. and Prof. don't come. Fenny talks of leaving the party. Jack, Fred, and I spent the evening singing.

July 23rd. In the morning fixed up my personal sacks, &c. Am not feeling well. Commenced "Overland"; like it. Rained in the afternoon and evening. Spent evening as usual.

July 24th. After breakfast received a note from Lee inviting me to spend the 24th, "The anniversary of Mormon Independence (?)." We accepted. Had a good dinner. The Old Gent regaled us with sermons, jokes, cards, &c., &c., &c. Andy went up the cañon to see after the horses. Had supper at Lee's. Reached camp after dark, wondering why the Maj. & Prof. don't come.

July 25th. All spent the day in doing little odds and ends; built a shade, &c., and finished "Overland." Weather intensely hot. No party in as yet. River growing muddy and rising from the frequent showers. Got supper for the boys.


July 27th. Writing most all day to Morris. River falling again, settling. Thermometer 110°.

July 28th. Jack, Fenny, and I cleaned about 75 glass. Toward evening received an invitation for supper at Lee's. Spent evening pleasantly.

July 29th. Cleaned about 75 more glass this morning. Spent the day mostly in re-reading old papers, &c. Jack made a ground glass for me. Killed a rattle-snake under the cliff. Fred has been trying to emulate the "hero of Chappauquach," i.e., plowing for "Brother Lee." Fred returned late from Lee's with a lame foot.

July 30th. Finished cleaning glass. Spent the day in doing anything to kill time; are getting sick and lazy. Fred, Jack and I fired at a mark in the evening.

14Pioneer Day, commemorating the arrival of the pioneers in the Salt Lake Valley, not "Mormon Independence Day." At that time the terms were practically synonymous.
July 31st. Another day wasted and spent in idleness. Thermometer regularly reaches 110° above zero. (F) Fenny\textsuperscript{a} is taken sick, is consumptive and says that he will quit. Went in swimming. Spend the days in discussions, &c.

Aug. 1st, [1872]. Went swimming in the cool of the morning. Marked my negatives. Fired at geese. River steadily falling and getting clearer. Fenny spent the day at Lee's on account of his health; returned in the evening feeling much worse.

Aug. 2nd. Did some washing; went swimming, &c. Jack went with Fenny to Lee's. F. is feeling no better, of course. Jack was invited to make a harrow and spend the day there. He and Fenny returned in the evening with some corn and squashes. I cut Fred's and Jack's hair and Fred cut mine in return. Some of Lee's folks coming in from Kanab, said that the Maj. had not come in up to Monday last.

Aug. 3rd. We meant to send our letters out by a couple of boys going to Kanab, but were too late, they having started the night before. Went over to Lee's after my Navajo blanket; found it O.K. Jack went over to finish his work. We spent the days studying, reading, swimming, sleeping, eating, &c. Had our corn and squashes today. Vegetables are doing us a pile of good at this season of the year. Had a hard head-ache all day long. Jack returned toward evening, Fenny did not.

Aug. 4th. Fenny came over this morning with an invitation from "Bro." Lee to spend the day. We had a council of war, decided to draw cuts as to who should go to Kanab to let them know about Fenny's leaving, more rations, &c., &c. Fred was the lucky man\textsuperscript{a} so Jack and I went up the cañon some 8 or 10 miles after the horses through the broiling hot sun and sand. I never felt so used up in my life; ached all over. Did not get back till about 5:00 p.m. Sent 5 letters out by Fred to Morris and one to Cousin Nellie. Took supper at Lee's. At night we had a good swim and a good bath. Fred started out at about 6:00 p.m. intending to reach Jacob's Pools by midnight.

Aug. 5th. Hard at work all day long killing time. My walk yesterday has made me about sick.

\textsuperscript{a}James Fennemore, 23 years old, overcame his illness, later photographed the execution of John D. Lee, and died in Phoenix, Ariz., in 1941 at the age of 92, being the last survivor of Powell's expeditions. He designed a new light-weight camera which was for many years a standard model. See also M. Darrah's sketch of Fennemore, pp. 492-495.

\textsuperscript{a}Dellenbaugh writes:

We concluded that one of us must go to Kanab to inform Prof. of the state of affairs, and Clem in his big-hearted way offered to do this, but we knew that his sense of locality was defective and that he might get lost. Consequently we played on him an innocent trick... I planned with Andy that we three were to draw cuts for the honour of the ride and that Andy was to let me draw the fatal one. Clem was greatly disappointed.
Aug. 6th. Wrote a letter to Fred Dudley. About noon Jack and I took over a little coffee and some flour to Lee's for Fenny's rations. He, Fenny, is boarding there now. Had dinner and spent the rest of the day there. Anything, Great Heaven—an anything to kill time. Returned towards night. Lee gave us a few squashes and some onions.


Aug. 8th. Worked very hard all day long, that is, at doing nothing, succeeded admirably. Clouded up in the afternoon and commenced raining. It was a change and we enjoyed it and the camp-fire at night.

Aug. 9th. Fenny is beginning to feel better now. The day is quite cool and pleasant. We sat around the cheerful camp-fire quite late last evening talking and watching a pot of beans. This morning saw some geese up the river, so we took a boat and went across after them, but they were gone when we got there. Had a pleasant ride a mile or two up the cañon, however. Lounged about till near 6 o'clock, when we heard our signal shots down the river. Answered them and hastened down about a mile to "the bad place" and found Fred, Jones, and Lyman Hamblin with 4 broncho mules and a wagon stalled. Made a portage and reached camp by dark. Andy and I got supper for the boys. Four letters and some papers for me, 2 from Morris and one each from Fanny and Mrs. Stevens. Maj. did not get to Kanab till Friday last. Prof., Maj., Prof. De Motte, and George Adair [went] over on the Buckskin hunting for a place to take provisions down to the boats. Will be here in about a week.

Aug. 10th. The boys brought down some rations and vegetables, potatoes, salmon, oysters, &c. Report Uintah [sic] Indians on the war-path raising "h'ar" and Ned in general. Johnson going to Salt Lake. Bishop driving team for the Maj. Fred thinks it doubtful whether we go on down the river. I would like to see the Grand Cañon if they would only rush through it. Carried the rations over from the wagon. Was glad to receive such good news from home. Mrs. Hamblin sent me a pair of stockings. J. F. Steward sent by the Maj., a 5# box of candy for the "Boys." Three cheers for Steward.

Aug. 11th. We are only to take 2 boats down. Took the iron off the "Nell" and fixed the "Canonita"; put on new canvas and painted it. Lee sent over some green corn and squashes; wants 50# of flour for it; gave him about 15# or 20#.

*Prof. H. C. DeMotte, from Wesleyan College, Bloomington, Ill., came west at Powell's invitation.*
Lyman and I took a ride up the river towards evening. Fenny made some lemonade. Spent the day in reading, &c. Jack and I packed up the chemicals to send back.

**Aug. 12th.** Looking for the party all day long, reading, sleeping, talking, &c. Spent the evening pleasantly singing, &c.

**Aug. 13th.** Day spent as usual. At about 5 o’clock p.m. heard our signal shots down the trail and knew that the party had at last arrived, Maj., Prof., Thompson, Cousin Nellie, Prof. DeMotte, George Adair, and Indian Ben, a guide. Of course we were all very glad to see them. Jones, Jack, and Fred took Cousin Nellie and De Motte a boat-riding up the river a mile or so. Maj., Jack, and I had a long talk about mother and things, &c., &c., &c. “Brother” Lee invited the new-comers over to supper. After their return had a long talk with Prof. and Cousin Nellie. Maj. and Prof. De Motte entertained us till bed time.

**Aug. 14th.** At work all morning packing and sacking rations, chemicals, &c., &c., &c. Before breakfast amused ourselves by firing at a mark across the river. Prof. De Motte climbed a cliff to obtain a geological section for the Maj. After dinner Fred and I rowed Maj. and Prof. down to the head of the rapid to see if we could run it; found that we could. Returned, packed the boats and ran the rapid with Cousin Nellie aboard the “Canonita.” Dropped down just below the rapid about a mile from our last camp. Will then start down the canyon in a day or so.

**Aug. 15th.** Wrote a letter to Mrs. Stevens and then took a picture or two. Jack and I then went over to Lee’s to help them catch the horses and mules for the wagons. Had dinner there; Cousin Nellie and I waited for the second table. After dinner bade farewell to Cousin Nellie, Prof. De Motte, Fennemore, Lyman Hamblin and George Adair. Fenny has been quite sick for the last day or two, but is feeling a little better now. The wagons took back all the baggage, &c. Signed a couple of vouchers for the Maj. Sent letters out by Cousin Nellie to Mrs. Stevens, Belle and Fred Dudley. Had some melons. Jack and I went over to our old camp and put back the “Nell” in her old place; Maj. has sold it to Jacob Hamblin. Took some squashes back

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The “Nellie Powell” was used as a ferry until Lee built a larger barge, when it was left lying in the sand. It was seen in 1912 by Sharlot M. Hall, Arizona historian. When Julius Stone’s 1938 expedition reached Lees Ferry, Mr. Stone was told by Leo Weaver that an old boat with the name “Nellie Powell” still visible had been found the previous year among some willows. Hunting with flashlights at midnight, members of this party found parts of it and next morning dug up a section three feet long. In burning off willows most of the boat had been destroyed, but what remained was sent to the museum at Grand Canyon National Park.
to camp. Cut some willows for our bed. Had a good supper and a pleasant time talking at night.

**Aug. 16th.** At work all day fixing the boats, caulking, putting on extra planking, &c., &c. We are only to take two boats and the old crews, viz., "Emma Dean," Fred. Maj., Jack and Jones; "Canonita," Powell, Andy, and Prof. At noon Beaman and [James] Carlton came in on their way to the Moquis. They are at work fixing up the "Nell" to cross the river with. Rained during the afternoon. Maj. and Fred climbed out.

**Aug. 17th.** This morning Maj. decided to take down only one photographing outfit; Jack and I cached the other at Lee's. Got some melons and bade Mrs. Lee No. 17 good-bye. Left camp and started down Marble Cañon at about 10 o'clock a.m. The Maj. had walked down a mile or more when we took him aboard. The walls are low at first, some 200 feet in height, but are rapidly increasing as we proceed. The water is higher than usual and we soon come to our old friend, the rapids, running one after the other in succession. Seven have rolled away and we land on the left bank for dinner and pictures. The walls are now 700 or 800 feet high and mostly vertical from the water's edge—are of gray sandstone, but we are running it up and the red sandstone is beginning to appear. The first thing after dinner is a good-sized rapid and then an old-fashioned portage. After that is over with, 4 more rapids, and we land at the head of portage No. 2 and camp for the night on right bank among the rocks. Have not felt so tired in a long time. Can enjoy a hearty supper. Have made about 11 miles. Went to bed early.

**Aug. 18th.** After breakfast made a portage and let down the boats, then made 2 or 3 negatives. In making portage with the boats, dragged the boats over the rocks. Are rapidly running up the walls of gray sandstone. Seams of coal are seen and limestone is beginning to appear from beneath. The water is high and, of course, swift; full of whirlpools and boils that cause us some hard pulling. Ran several rapids and at 11:45 camped on left bank for dinner. Had to climb up a vertical wall of 25 feet and cooked under a ledge of rocks. Took 3 negatives. Jack burnt his foot badly. After dinner pulled out into a big rapid and from that to another which proved to be a portage; the next one a let-down. Went into camp at 5:30 on right bank. Have run 10 rapids, 3 of them "Old Roarers." Made one portage and one let-down. Ran about 10 miles. We are now nightly lulled to sleep by the music (?) of the waves, a drear joy I take it. The walls now

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168 Beaman was enroute to the Hopi villages to take photographs for magazine articles on his own account.
are some 1200 feet in height, of gray and red sandstone with a bedding of limestone which we are running up.

Aug. 19th. Commenced the day’s work by running 2 big rapids in succession. In running the last one the “Canonita” came near knocking the cliff down, but the cliff would not give worth a cent, but the boat was badly jammed on her nozzle which caused her to be unloaded and pulled upon the sand at night for repairs. We then made a portage, Jack and I taking pictures afterwards while Andy cooked dinner on left bank. I took a couple of instantaneous views of the rapid. After dinner ran a couple of more big rapids and let down 3 times in succession. Only made 4½ miles. Camped on the left bank. Rained about all night.

Aug. 20th. Broke camp at 7:30 a.m., running a big rapid just below and then making a land portage on left bank, then ran rapid after rapid in one of which we stoved a hole in front standing room of the “Canonita.” Landed at the head of a big rapid for repairs, pictures, and dinner. Gulch coming in off the left. After dinner ran the rapid nicely but shipped a good deal of water. The marble is beginning to appear and at our night’s camp on right bank is over 100 feet in height. The walls are terraced as the different formations come up—first the sandstone, then the limestone and now the marble-colored—a beautiful pink but worthless from the amount of dirt in it, though perhaps by quarrying it would improve. Cañon walls are now about 2000 feet high. Made some pictures at our night’s camp. A deep narrow cañon on right. Vasey’s Spring gushes from right wall some 200 feet from the river, about half a mile below camp. Maj. and some of the boys went down to see it. Found that the negatives that we have taken so far are spoiled by water. Maj. did not like it but ‘twas Prof.’s fault. Made 6½ miles one portage; ran 12 rapids today.

Aug. 21st. Broke camp at 8:00 a.m. Ran a few rapids. Stopped for a couple of pictures then ran down to a large cave on the left bank—took a picture of it. Had Jones’s footprints for a foreground. Ran down a couple of miles farther and landed on right bank for dinner and pictures. Pulled out again at 2:00 p.m. and continued our career of rapid running. Ran a couple of the biggest rapids we have run or seen on the river; both boats nearly filled with water. Meskeet [Mesquite] is beginning to appear; is the characteristic [shrub] of this cañon and is a species of the locust. The cañon is narrow with vertical walls rising from the water’s edge. At a great many of the rapids we have run, no foot-hold could be obtained for portages. Walls are now 3000 feet, towering up in terraces and blending their tracery with that of the sky above. The first terrace is that of marble rising vertically for 1000 feet; is
mostly grayish-white veined with red chalcedony. Ran 10 rapids and made 12½ miles. Went into camp at 6:00 p.m. on left bank on a sandbank. At the gray dusk of evening, just after landing, camps wear their most picturesque garb. Maj. and Prof. looking over maps and books; others spreading blankets or attending to other little duties. Andy preparing supper. The darkness increases, the camp-fire grows brighter. The stars come out one by one in the narrow rift of blue that seems so far away. Two boats, bruised and battered but still so graceful in outline and symmetry, swing idly at the bank. We look at them with feelings of pride and trust; we look to them to carry us safely to the outside world. We gather around our meal and discuss the events of the past day. Cigarettes are then made and lighted and consumed. Silence overtakes us. The moonbeams are creeping softly downwards. One by one the explorers roll up in their blankets. The camp-fire dims out. Danger, privation and toil are forgotten and our thoughts are of our far-away homes. The moonbeams are at the foot of the opposite cliff and we are lulled to sleep by the roar of the rapids below us.

Aug. 22nd. Took a couple of pictures before starting. Broke camp at 8:30 a.m. Ran 4 or 5 good-sized rapids. Stopped for a couple of negatives on left bank. Cañon narrow and broken into peaks and crags. Stopped for dinner on the right bank at the mouth of a gulch or cañon coming from the Buckskin. Made some more views. Prof. found a garden of cactus-apples. We enjoyed a feast of them for dinner. Started again at 1:30. We have run the marble up and some 200 or 300 feet of green shales are beginning to appear, proving that the river had been dammed up below by lava and a lake formed here. Stopped for pictures on a little sand bar. Fred and Jones rowed upstream for a fore-ground. Passed a couple coming in from the right through which we could see the Buckskin heavily wooded and rising up some 5000 feet above. The immediate cañon walls are about 3500 feet in height, of marble, shale, limestone and the sandstones. Came to the head of a long rough rapid and had to make a line portage—then ran several more. At about 4:00 p.m. came to the mouth of the Little Colorado, a stream about 3 rods wide by 2 feet deep and as disgusting a stream as one ever set eyes upon. Its waters are of a bright red and very salty, rendering it unpalatable. 'Tis the division line between Marble and Grand cañons. Huge grand rocks guard the entrance to the latter cañon. Walls about 3000 feet. The Chichata [Chiquita] comes in on the southeast side. Left the boats at the junction and carried the things up the little muddy stream about half a mile under the shade of some meskeet. Carried our water from the Colorado. Made 18½ miles; ran
18 rapids, too. Camped on the left bank. Marble Cañon is 62 [ ] in length. Ran 62 rapids. Made 4 portages and let down by line 5 times.

Aug. 23rd. After breakfast Jack, Fred and I crossed the Little Colorado, Jack and I to take pictures and Fred to climb. Returned at noon, took a few pictures and fixed chemicals in the afternoon. An old fire-place on Indian trail found near camp. Prof. and Jones taking observations nearly all day. Maj. climbed for a geological section. Spent the evening as usual till bed time.

Aug. 24th. Broke camp at 10:15, Prof. taking a Lunar meanwhile. Of course our work commenced by running a rapid, with others following in quick succession, in some of which we shipped considerable water. We are at length in the Grand Cañon of the Colorado but to our eyes there is not much difference in appearance from other cañons of the river. Dropped down about 6 miles when we came to a fissure from whence lava flowed, damming the river. Volcanic rocks are scattered about. Went into camp at 11:00 a.m., had dinner, then Jack and I took some pictures while Maj., Prof. and Fred climbed out for geological purposes. When they returned said that we were 6500 feet below the top of the Buckskin which, in reality, was the right wall of the river. Maj. said that we should remain here for a day or two for geological work. We are camped at the head of a big rapid which the Maj. made a portage at before, but which we will run. Am not very well and feel played out.

Aug. 25th. Rowed the Maj. and Prof. across the river this morning to examine the volcanic ledge just opposite camp. We found some good specimens of silver ore and have no doubt discovered a silver mine, but how rich it is there is no telling. After dinner Maj., Prof., Jones, and Fred climbed out. I took 1 o'clock observations for Jones. Have been writing up my diary to date. Forgot to say yesterday that we ran 6 rapids, 4 of them big ones. We are running lazier rapids than we did last year—'tis far easier than making a portage. Of course we ship some water but that is of no consequence. Have been

1stClem Powell, Fred Dellenbaugh, and S. V. Jones, all make specific mention of finding minerals. In an undated letter to the Chicago Tribune found in the New York Public Library's Dellenbaugh Collection, in which Clem describes this voyage through the Grand Canyon, he writes: "While examining an ancient volcanic ledge silver and copper ore was discovered. . . . Numerous specimens were obtained and will be assayed. We have prospected for gold along the river. Wherever a shovel-full of sand is turned over 'color' can be found. Where it comes from is a question many a miner has tried to answer." Robert B. Stanton, in 1890, found mineral in this same locality and staked claims. He also built a dredge to separate placer gold from the sand, but it was unsuccessful.
reading Ives' Report all afternoon." Toward evening Maj., Prof., Fred and Jones came in from a climb. Maj. says he has solved the mystery of the world and is glad salvation is free.

Aug. 26th. Prof., Fred and self went across the river to measure a Base-Line. On coming back Maj., Prof., Jones, and Fred went out for an all-day climb to hunt for fossils and to study a "Fault" near here. Jack and I rowed half a mile up the river to take 3 or 4 views. Took the afternoon observation. Jones broke the barometer this morning—Maj. mad. I have hurt my back some way and 'tis paining me badly. Am feeling utterly miserable and gloomy. My head aches and I feel mean and sick all over—took a large dose of pills. Rained a little during the afternoon. At dark the boys returned. Fred brought in some cactus-apples that he found in coming down. All are feeling pretty tired.

Aug. 27th. Another barometer broken this morning. Maj. "Towich-a-tio-a bum." He and Fred started out for a short climb, returned in a couple of hours. Prof. filled another barometer tube. The weather is extremely hot and oppressive, though at night a cool breeze comes up the cañon. Am feeling no better. Took some more pills. Broke camp at 10:00 a.m. Ran a big rapid to begin with without shipping much water and then 9 rapids more, making 10 in 7 miles, when we went into camp on the left bank. Saw a couple of mountain sheep. Fred and Andy gave chase but could not get a shot. We are now running through basalt rocks. Will camp here the rest of the day—Maj. wishes to geologize. Jones, Maj., and Fred crossed the river for that purpose. Prof. and I climbed a peak about 500 feet high to take a topographical sketch. The walls of the cañon are 5000 or 6000 feet high but stand somewhat back from the river. Numerous cliffs of different heights, broken, ragged, and in all imaginable shapes intervene. Found an old stone house evidently built by the Sto-ce nee nas. Returned at supper time but the rest did not get in till after dark. Evening spent as usual.

Aug. 28th. Started out at 7:30 and again commenced our weary work of running rapids and making portages. Ran 5 rapids when we came to a let-down; made it. In running a long shallow rapid the "Canonita" grounded on a shoal of rocks, springing her blanking [planking?] somewhat. As we were leaving the basalt Maj. stopped to examine them. Jack, Jones, and I dropped down a mile or so and took a couple of

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188 In 1858 Lieut. Ives had come up the Colorado from tidewater to Vegas Wash. In 1871 Lieut. Wheeler came upstream to Diamond Creek, thus overlapping Powell's exploration of 1869.

190 This appellative does not appear in Hodge's Handbook of American Indians. Presumably it refers to Coconinas.
fine negatives. The other boat coming up, we had dinner on left bank. We have now come to the quartzite and of course will find some bad falls and rapids. After dinner ran a big rapid and came to another let-down, then ran another small rapid when we came to the worst rapid we have yet seen on the river. We let down the boats a short way through a hard rain and hail storm—came pretty near freezing. Each took a rock for shelter till after the storm was over, then made a portage of half a mile, but still over half of the rapid is below us—but, thank Heaven, we can run the rest of it. Commenced raining again so went into camp on left bank. Put up our tents and made things snug for a disagreeable night. Supper tasted good. Have only made 6 miles. At this rate will never get to the Kanab Wash. Have again come to the old red sandstone walls, on left bank 4000 feet, on right 5000. Jack sprained his back badly; am afraid it has used him up for a time. We are just getting into the worst place on the whole river. If we can survive for the next 2 or 3 days will be all right to the Kanab Wash, at least. Grand Cañon so far has not come up to my expectations.

Aug. 29th. Rained some during the night. Jack’s back pretty bad. Did not leave camp till 10:00 o’clock. Andy took Jack’s place to run the rest of rapids, then walked back to our boat and we ran the rest of the rapid safely but shipped considerable water. Ran 6 rapids besides. When we came to a fearful looking place were compelled to run it as there was no foot-hold for a portage—it was run or bust. Landed at the head of it for dinner and pictures. Jones broke another barometer and dropped the camera-head overboard. We watched the “Emma” go through it, and thought, at times she had sank [sic] to rise no more, but after a brief moment would see 4 human heads on top of the next wave, the boat nearly filled with water. Our turn next. We rode through it without shipping quite as much water as the other boat did. Maj., on former trip, swamped here. The rapid has a fall of 50 or 60 feet in half a mile. Bailed out the boat and pulled out into 4 more big rapids, which we ran safely. At 3:00 o’clock came to another big bad rapid and the Maj. concluded to make a portage along the side of the cliff. It seemed almost impassable for the granite walls (we struck the granite at the foot of our last night’s camp) looked perpendicular. Let down and portaged for a few rods, working hard till dark. Let the boats down one past the other; quite dangerous. Made camp on the bare granite boulders in the midst of a rain-storm. In fact has been raining off and on all day long making it most uncomfortable and cold. Had hard

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106 On August 14, 1869. See the journals of Bradley, Sumner, and the Major in vol. XV of this Quarterly.
work in building and keeping a fire; did some tall rustling for a few twigs. Our camp is not extensive in size, just a few granite boulders at the foot of a perpendicular wall; wood scarce. Finally supper was ready and eaten. Tried to relieve the unpleasant experience by singing songs, &c., &c., &c. No sand to sleep on so each one will have to take a separate individual granite rock with a blanket, and get what sleep he can. I wonder what the devil the wild waves are saying with their infernal roar. Made about 6 miles by today's run.

Aug. 30th. Passed a hard uncomfortable night. After breakfast commenced work by continuing the portage. To make a long story short, worked hard till noon letting down boat by boat, one past the other from rock, then carrying the rations, &c., around the cliff where there was a bad place; handed them one to another. Made a couple of hundred yards and still the rapid boils below us. The Maj. ought to have run it. 'Tis not near as bad as the other one was, and again instead of continuing the portage, ought to have struck out from last night's camp and have run it. But instead we have had terrible hard work, lost time, but more than all, have now on hand a couple of boats with bottoms almost gone and with gaping holes through their sides. In fact they are in a sorry plight, and to add to the dreariness of the scene it has rained nearly all day long. Rations, blankets, guns, &c., &c., wet through and through. Spent the balance of the day in repairing the boats. During the afternoon the river commenced to rise rapidly by some 3 or 4 feet, so toward evening had to lift the boats up some half dozen feet above the water and lash them firmly with ropes against the side of the cliff to prevent them from being dashed to pieces against the rocks by the angry surf. Had some more tall rustling for wood. Moved camp, rations, &c. up on a narrow bench 30 or 40 feet above water. While Andy was helping Prof. the others fixed the boats. I got supper; had a sweet time of it in the rain. Had to stretch a tarpaulin over the fire. Another camp on granite boulders. Boats hanging to the sides of the cliff. If the river continues to rise will have to lift them still higher, for if they go—God help us. 'Tis an anxious night for us all. Lying on granite boulders not agreeing with my constitution, slept on top of the rations & sacks. This hard work and being wet from head to foot all day long is terrible and is wearing on the spirits and health of the party. The party seems dead—nothing but work and danger, hard beds and worse food—a little bread, a few peaches, jerk [jerky] and coffee.\(^{181}\)

\(^{181}\)Due to late August rains the river was subject to sudden fluctuations and their camp was in a precarious position. Morale of the party reached its lowest ebb on this night.
Aug. 31st. The river rose and fell again last evening, but after breakfast it commenced to rapidly rise higher than before. The boats were lowered as quickly as possible but in letting down the "Emma" a hole was stove through her side. The boats were pounded on the rocks by the water badly and the Maj. thought that we would have to haul the boats up on the cliff and let the water subside, but finally concluded to run the rapid and get a better landing place. Before the "Emma" was loaded and ready to start was almost water-logged, but off they went at last, but riding very low. If there had been short choppy [choppy] waves she would have swamped. We watched her out of sight and then prepared to sail out ourselves. Expected to find the other boat drifting somewhere below the rapid. We had a good deal of difficulty in launching; Andy came mighty near going up the flume. We went half or three-quarters of a mile fluking now, you bet your life. Found the other boat in a little cove on right bank all right but center cabin full of water. Unloaded her, bailed out and hauled her up on the rocks for repairs. Of course it commenced raining and lasted about all day long. At the rapid above, threw away my dark tent and lost an oar and Andy a pair of shoes. Maj. threw away several little things to lighten the boat. Jones lost his big straw hat. Andy threw away an old coat and pair of breeches. When the miners at the Kanab Wash see the things come sailing down they will mourn the expedition as lost. Had dinner on bare rocks. Maj. climbed to the top of the granite 1000 feet high. The "Emma" was repaired and I had a new oar made by 4:00 o'clock, then pulled out into the waves. Ran 10 long bad rapids, or rather one long dangerous rapid, for 10 miles in about 45 minutes including all stop[pages] to look at the rapid, &c. Could not make portages if we had wanted to, for it was perpendicular granite walls all the way down. In one of the rapids Prof. was knocked off the boat but soon recovered his position. Landed at 4:45 on right bank at Bright Angel River. A large willow tree grows at its mouth. Plenty of sand to sleep on. All of us are about used up.

Sept. 1st, [1872]. Rose late this morning feeling stiff and sore all over. Had a pot of beans for breakfast. Found the remains of some Moquis houses near by with some of their mills for grinding corn. Maj.'s crew crossed over to the other side to climb. Prof. climbed out on this side. Found that our boat was leaking some. We are now running out of the granite into the old red sandstone, but will soon be back to the former formation and hard work on the other bend. Have almost finished the first great southern bend. Bright Angel is muddy this morning. Jones is sick again. About one-half of the volume of the Colorado is mud, and we are compelled to drink it. The weather is getting
colder and rains day after day. Pulled out at about 10:00 a.m. and ran a long continuous rapid of over 3 miles in length in safety. In running another, the Deacon [Jones] fell overboard and the “Dean” lost 3 oars, but we recovered them in an eddy. Ran into the granite again, height of walls 4000 feet. Ran 5 long dangerous rapids in forenoon. Camped for dinner on right among granite boulders. Took a couple of fine negatives. Pulled out again at 1:15 into a big rapid; ran it and 4 others in safety, when we came to a heavy portage. Stove a hole through the “Canonita.” Camped to repair her and take some views. Climbed up some 600 feet for them. Camped on left bank; granite all day, cañon very narrow and water very swift. Made 7¾ miles by hard work.

**Sept. 2nd.** Pulled out at 8:00 a.m. and ran a dangerous rapid, then 3 small ones and then to an “Old Roarer” and a portage; made it. Ran 3 more rapids and made another portage, all within 3½ miles of camp. Camped for dinner on some rocks on left bank, after which we struck out to do or die. Ran over several portages the Maj. made 3 years ago, and over some “Pe-up” waves in which we were severely handled and both boats nearly filled with water more than once. High water is a great labor-saving institution as long as one is right side up with care, but if one met with an accident then look out. Made 15¾ miles, 26 rapids and 2 portages. Camped on left bank on little patch of sand amid the granite boulders. Granite and the walls of the cañon growing less as we go. The river is fearfully filthy and is on the constant rise, but now and then we are lucky enough to find some little pocket of pure rain water in some granite basin.

**Sept. 3rd.** A long dangerous rapid just below camp. Maj. decided to run it and started out at 8:00 a.m. In going through the “Dean” filled with water and swamped, spilling out crew, camp kettles, a couple of axes, sponge and cup. Jack was thrown 6 feet from the boat by an oar and landed in the middle of a whirlpool that sucked him under, stripping him of hat, shoes and stockings. Maj. was also landed in the same whirlpool with Jack and if he had not had on his life-preserver would never [have] come out alive. ’Twas the closest call he ever had. Jones and Fred kept their hold on the boat and helped the Maj. on, also Jack finally reached it and all of them together righted the boat, got her in an eddy and at last ashore. Lost 3 oars and the aforesaid articles. The Maj. had his $500 chronometer about ruined. Soaked it with glycerine to prevent it from rusting. Reached shore, bailed out and soon had things shipshape, though the crew looked decidedly dilapidated. Well, we

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110 A Paiute word, meaning “big.”
were delayed in getting off by an eddy, but when we finally got into it we were most terribly shaken up. Prof. and Andy did some lofty gymnastic performances and I presume I was doing likewise. Prof. yelled "Left," so dropping the right oars we pulled with might and main on the left. On looking around saw my right oar and oarlock minus as was also Andy’s and the Prof.’s oars, but luckily we saw the last two oars in an eddy and recovered them, but the last that was seen of mine she was gaily running the rapid blade up. We finally reached shore by the side of the "Dean" and picked up Jones’s steering oar. Maj. felt rather blue about his chronometer. Soon replaced my oar and oar-lock. All the spare oars are now gone. Quite unfortunate. Struck out and ran 2 or 3 other rapids and landed on right bank for dinner. Maj., Prof., and Fred went geologizing while Jack and I took some negatives. Started out at 1:30, dropped down to some Moquis ruins on right bank in a bend and at the head of a long dangerous rapid. After looking at it awhile concluded to run it, which we did safely, though at some risk as the water set in against the cliff. Came near running against it. Went about 3 miles in as many minutes, then ran 4 long bad rapids. The Maj., in trying to land for a night camp on left bank, got into some swift water at the head of a rapid. Fred jumped ashore with a line but slipped from the rock and away went the boat dragging Fred, who still held onto the line. Deacon jumped for the shore and landed on a rock, skinning his shin. Maj. jumped to save Fred but did not reach him. Fred climbed into the boat and he and Jack rowed her ashore. We have had quite a day’s adventure, I think. Made 8¾ miles and ran 16 rapids, most of them bad. Walls of cañon 5800 feet; granite, marble, and sandstone walls are beginning to decrease. Their greatest height in this has been 6700 feet.

Sept. 4th. Broke camp at 8:00 a.m. and portaged the first rapid. Ran 9 more. Landed on left bank for pictures, while the "Canonita" dropped down half a mile for a dinner camp. After securing 2 or 3 indifferent views, dropped down also. Very windy all day. Tried to take a view from dinner camp but could not on account of wind. Maj. called Andy and I up last night to secure the boats, as they were pounding badly on the rocks. Had beans for breakfast. Pulled out again at 1:15 but landed in [on] right bank for pictures on dropping down 3 or 4 miles. The river is full of boils, whirlpools and eddies which makes it very hard in rowing; the river rose about 2 feet during the past night. Camped on left bank at 5:30. Made 14½ miles, 23 rapids and one portage. Cooked the last of the peaches. Cañon walls now are about 4000 [feet].

Sept. 5th. Yesterday ran the granite down and the sandstone up. River much wider. Water fell some 2 or 3 feet
during the night. Started out at 9:00 a.m. and made a line portage to begin with, then ran 5 rapids in as many miles. Stopped at about 11:00 a.m. for pictures on left bank. Had dinner before leaving. Started again at 2:00 p.m. Made a portage; boats surged up against Andy and myself and wedged us in between a couple of big rocks. Andy hurt his leg badly and I was pretty well squeezed. Went down about 3 miles farther when the Maj. landed above the rapid to look at it but could not get down to it on account of perpendicular walls. Hauled the boats up a couple of hundred yards and then started to cross and landed at the head of the fall. Saw that it did not amount to anything but the Maj. said "A portage," and so a portage it was and a d—d farce. Went into camp just below it on a sand bank to the left. Ran the sandstone down and the granite up and down and now are in lava or basalt. Made 8½ miles, 3 portages and ran 11 miles [rapids].

Sept. 6th. Looking back up the river a clear stretch of a mile and a half presents itself through the granite—rapid just at its head and the dark walls make it impressive. The walls are almost vertical with caverns at their base, or rather alcoves. The cañon is very narrow. Pulled out at 8:45 and ran a long bad rapid to begin with and then 3 others. Landed on right bank for pictures while the Maj. went geologizing. A clear cold stream comes in off of the Buckskin to the northwest. On going up it found several cascades, while looking away up through the gorge rose the cañon walls some 4000 to 5000 feet in height. Made 6 good negatives, Maj. and Prof. well pleased. Maj. did not get back till 3:00 p.m. Started out by making a portage over the first rapid and running 3 more, 2 of them quite bad. Landed on the right bank at the mouth of another cold stream coming in from the Buckskin. Have only made about 3¼ miles. Made one portage and ran 7 rapids. Basalt all day at the water's edge all day long for a couple of hundred feet; red sandstone and yellow shales above that.

Sept. 7th. After breakfast Maj., Prof., Jack, Fred, and I climbed up the creek for pictures. After going up some 800 feet took a couple of indifferent negatives, while Maj. and Fred went on farther for a couple of miles. Found some Moquis ruins and cactus-apples; the latter were good but the former we cared little about. Fred brought down a hatful. The creek is cold and clear as crystal and is one succession of cascades. By climbing up we got a far better idea of the grandeur and magnitude of Grand Cañon, the walls towering up in terraces from 4000 to 6000 feet in height. Reached camp by noon and after dinner started down the river, running 4 rapids in about 3 miles, when we came to a cascade pouring off the right wall some 200 feet from the river. Stopped and took a couple of
views of it and then pulled out with a will for the Kanab Wash, only 8 miles away, running 9 more rapids, some of them bad. Ran the granite up and down in the 3 miles' travel, then came up a stratum of marble. At about 6:00 p.m. landed out [at] mouth of Kanab Wash. Rode up the little stream a short distance for a good camp. Found George Adair, Joe Hamblin and Mr. Adams there with rations for us and our mail. A couple of letters for me, one from Morris and one from Cousin Nellie, but no papers. Am disappointed at the smallness of my package. Found that Cousin Nellie had kindly sent us down some vegetables, potatoes, &c., and some canned fruit, salmon and butter. We had a gay supper, now, you bet. Have made about 11 miles and run 13 rapids. George brings in news that all the Indians in the territory are on the war-path; that some Mormons killed a family of the Shebwitchs [Shivwits] and that the tribe are on the lookout for our party for revenge. Think that we can give them a warm greeting if they visit us. Sat up till quite late.

Sept. 8th. Received a new supply of photographic materials. After they were straightened up 100 glass were to be cleaned. Commenced a letter to Fanny giving an account of our trip. My head aches sadly, so did not make much headway. George brought in a month's rations and 11 animals. Cousin Nellie wrote that she expected that we would leave the river at this point on account of the Indian troubles, so sent in Maj.'s and Prof.'s horses at a venture. Maj. and Prof. are in a brown study about something and they may possibly give up the expedition at this place. I hate to give up until we are through but still will be glad to leave the infernal river. We have come through the worst of it, at any rate with the exception of a couple of bad rapids in the next southern granite bend, one where the 3 men deserted [Separation] and the other where Bradley went sailing over the rapid alone in a damaged boat.²⁸

Sept. 9th. While at breakfast this morning Maj. quietly told us that our voyage of toil and danger was over with; that he had concluded not to go down any farther on account of high water; that the party should go back to Kanab with the train except Jack and myself who would photograph the Wash up for 10 miles to the "Water Pot" and then wait for horses to take us out. Will have to pack our own things up the cahon. That Prof. would map in the river from above; wanted the party to remain for a couple of months longer. Told Maj. and Prof. that my time was up and that I wanted to go home as soon as possible. Maj. and Jones started out to take a geological sec-

²⁸See Bradley's graphic account of this adventure, in his journal under date of August 28, 1869, Utah Historical Quarterly, 1947, vol. XV, pp. 70, 71.
tion while the rest of the party packed up, had dinner and were off, leaving Jack and I alone, with about 3 more packs. Some of the boys will have to walk to Kanab, for horses are scarce. Sent a short letter out by Prof. to Fanny telling the folks that the trip was over with. Have been writing my diary. Fred takes the "Emma Dean's" flags; Prof. sends the "Nellie Powell's" to Steward, while I fall heir to the "Canonita's." I will always keep it as a memento of the trip. After the party had left found out that we had forgotten to lay in a supply of matches; after hunting around found a dozen in the tool box. Will have to be very saving of them and keep a fire during nights. Spent the balance of the day easy.

Sept. 10th. After breakfast went down to the bank of the Colorado and took our last views of that infernal river. Got a good view of the rapid. Went back to camp and took a farewell picture of the boats as they lay high and dry on the banks of the creek. The river has gone down at least 2 feet since last evening. Opened a box of sardines and a can of salmon that Cousin Nellie sent down to us, then took 2 or 3 more negatives in the afternoon, making 7 for today. A pretty good day's work, I call it. 'Tis pleasant, this camping out when there are only 2 of us, but still at the best a cañon is a gloomy low-spirited hole and I will be heartily glad when we are out of it and on our way home.

Sept. 11th. Started out this morning loaded down with the photographic gallery to make our last portage of 10 miles. The cañon has a vertical marble wall of a beautiful pink color; are about a couple thousand feet in height. The trail is strewn with marble boulders of all sizes and shapes and among them we stumble along. Passed a couple of large caves worn out by the little stream. From over the larger one a spring constantly drips in a shower of drops. The cañon is so narrow and the walls are so high that it is difficult to make any kind of a decent negative on account of light and failure of the instrument to take in the top of the wall. The bends are mostly very short; in fact the cañon is nothing but a series of bends. A constant wind from head to mouth. Went up about 4 miles only, made a couple of views, cached our things and returned to our camp at the river feeling very tired and hungry. Found a few live coals and thereby saved a match, cooked supper, ate it thankfully, smoked and talked around the camp-fire of the trip that is past and fell asleep to dream of home.

124 The "Nellie Powell" had been left at Lees Ferry but the men still carried her flag. It had been Powell's intention to continue down to the mouth of the Virgin River in order to make maps and photographs, but his men were worn out and his boats in bad shape. Perhaps he did not care to risk repetition of the trouble at Separation Rapids a few miles below.
Sept. 12th. Started out early this morning packed with our blanket and rations. Reached our gallery and took a couple of views then packed our gallery up the wash for a couple of miles farther, taking in the meanwhile, 3 more pictures. Returned to camp by 6:00 o'clock feeling very tired and hungry.

Sept. 13th. Passed an unpleasant restless night; woke up feeling utterly miserable. After breakfast was over with, packed our traps up to our gallery; made 4 negatives at that place, then lugged our gallery up a mile farther, making one more picture. Filtered bath and made developer. We find as we pass along here and there a few cactus-apples; Jack goes for them but I am sick of them. The trail is simply "jack-assable" and hardly passable; we wade and stumble along it somehow or other but at night a feeling comes over us as if we were a used up community [commodity]. Returned to our camp and cooked our supper. We are, I should judge, about half-way to the "Watering Pot." I am getting heartily sick of cañon life.

Sept. 14th. Woke up feeling very tired. After breakfast we started out again after our gallery, then exchanging our blankets for it (the gallery) continued our march onward and upward over the rocks. Made about a couple of miles by evening, making 7 good negatives. Got to within about a mile and a half of the "Watering Pot"; will make that tomorrow and then our 10-mile portage will be over with, thank Heaven. Returned to camp, cooked our supper, wrote our diaries and talked over matters and things. Every now and then as we are plodding along we catch [sight] of the upper terrace of the cañon through some lateral gorge or cañon. The walls are of solid marble, towering up for some 3000 feet. We are beginning to run up the "old red sandstone," then comes the gray and then the limestone. We have passed several large caves today in different parts of the wall, some almost at the top, others again at the bottom and some midway. In some places the cañon winds so that only a thin partition remains standing.

Sept. 15th. Started out after breakfast, stopping whenever we came to a picture; if the light was not right we waited for it so that by the time that we had taken half a dozen fine negatives we were a mile from the spring and night approaching. Went back after our blankets and rations and carried them to the spring where we found the pack-train in charge of Mr. Adams and Joe Hamblin just going into camp. They made a forced drive from Kanab to here in a few days and playing out 2 or 3 of their animals. They brought us no mail much to our disappointment. They had been too lazy to cook anything since leaving Kanab so are about famished. Went to work and cooked supper. Maj. and Prof., on going out, cached a couple of packs here so that the boys would have horses to ride. There being some beans
in the cache put on a pot for breakfast. They brought us no news except that the party still remains together and are preparing to scatter out over the mountains. The spring looks as natural as life and we fell asleep to the dripping sound of the falling spray.

Sept. 16th. Up early to get the fellows off after the things at the river; they wanted to make the trip in one day, but we finally persuaded them that they had better take two to [for] it on account of the horses. They brought in with them 2 of the broncho mules to pack out. Made 5 good negatives, bringing the gallery up to the spring and the no. of views up to 36; will make the even 40 and then will feel satisfied. Toward evening we carried our blankets, &c., up to the head of the water one-half or three-quarters of a mile farther up and camped. Tomorrow will finish photographing, I hope. We are entering on the old camp-ground among the mesquite and for the first time in 2 months have camped out of the sound of falling water. As I write everything is so still and hushed that an involuntary feeling of sadness comes over me. All is silence, the walls tower above me for a thousand feet, the sun is just throwing its last touch on the topmost pinnacle, and darkness and gloom are rapidly descending in the cañon beneath. We look wistfully up to the heights above wishing and longing to be out of our prison, but "there is a good time coming."

Sept. 17th. Passed a restless night; "Buttons" and "Dick" on the rampage all night long trying to get by us. "Buttons" would send "Dick" on ahead to see how things were going on and to see if he could get through the lines, &c.; the mules thought they would try it, so take it all together we had a gay old time of it. After breakfast we went down after our traps and brought them up to camp and finished our picture-making for the present by breaking the slide to the plate-holder. At about 9:00 a.m. Adams and Joe came up with the caches. Concluded to rest the animals the rest of the day and get an early start in the morning. Whiled away the rest of the day in arranging packs and getting things ready. Have got about 40 fine negatives of the cañon and 60 of the Grand Cañon. The stream here is filled with speckled brook trout but are too small for cooking purposes, am sad to relate.

Sept. 18th. After breakfast packed up; had no trouble with the bronchos as we had expected. As the negatives are the most important part of the expedition, packed them on the "Blue" which I led, and up the cañon we started with 6 packs. The iron hoofs went clattering over the boulders for 20 miles and we camped at our old place, the "Cedar Tree," finding plenty of wood, water and feed. On our way up ran marble, old red sandstone and the gray sandstone under, running up the lime with
a talus of red shales beneath it. Cañon here is about half a mile wide and about a couple of thousand feet in height.

**Sept. 19th.** The past night was a cold one. As we came up out of our "hole" into the world above we feel the fall air and realize the fact that winter is almost here. Were started by 8:00 a.m., taking the trail leading straight up the cañon as it will save us some 10 or 15 miles. Reached the "Gap" and passed into the willows and 'twas amusing to see "Dick" wade through them followed by a camp meeting on a white mule. Five miles from the Pipe Spring we came to a rather peculiar rock running out halfway across the cañon; called it "Chimney Rock" and went into camp at the pool of water at its base. I got supper as usual while the rest attended to the stock. Have had limestone all day; cañon narrow, walls about 300 feet high.

**Sept. 20th.** Broke camp at about 8:00 p.m. [a.m.], traveled up about 4 miles then climbed to the top of the cañon walls and struck out over the sandy waste northward for Kanab. 'Tis pleasant to view the broad expanse of blue above us once more and looking far away through the haze Mt. Trumbull loomed up grandly before us; some 15 miles away were the Vermilion Cliffs stretching out as far as the eye could reach east and west. Behind us lay the Kibab [Kaibab] Plateau and around us on every side rose small sand buttes of all imaginable shapes and forms; one resembles an ocean steamer under full headway, another a spired cathedral. The infernal sage bush sickened every sense with its remembrances of many a toilsome march and still it has made many a bright cheerful camp-fire; so I forgive it. Soon struck into the road leading from Pipe [Spring] to Kanab. Reaching the latter place by 4:00 o'clock p.m. were kindly greeted by Coz.'s [Cousins] Harry and Nellie and Fred. Andy has gone to Beaver after a load of rations. Maj. and Jones are at upper Kanab to geologize. Received a letter each from Morris, Fanny, Belle and Fred Dudley, also a few papers. It appears that Jack and I are to go over to the Moquis with Jacob in a week or so. A couple of Moquis are in town but left for the Pahria just after we got in. Beaman returned today, said he had had a successful trip, got a lot of blankets, buckskins, &c.; left for Johnson's in the evening. Showed our negatives to Prof., and Cousin Nellie. They were well pleased with them. Were treated to a lot of melons by George Adair. Had a good suppers of potatoes, butter, milk, &c., &c., &c. Are camped in our "Hogan" [hogan]. Went to bed with a hard headache.

**Sept. 21st.** Rose late feeling utterly worn out and dispirited; Jack and I worked too hard down the cañon. Overhauled our chemicals, &c.; took an inventory of the stock on hand. Tried to take a ferro-type of Fred but did not succeed. Had plenty of melons all day. As we were getting supper 16
Navajos rode into town; they camped in school house. After supper Fred, Jack, and I went down to see them. They are bright sharp-looking rascals and well-dressed. Have brought blankets to trade for horses. Prof. has put up his observation tent and sits up part of each night taking the exact latitude and longitude of Kanab, also getting the exact north and south lines; and in consequence of them Fred and I have to take hourly barometrical observations. We go on tonight; Fred sits up till 2 o'clock tomorrow morning, then wakes me and then I take the series till 2 o'clock the next morning, and so change about. Its an unpleasant piece of work.

Sept. 22nd. Sunday morning again. Jack dressed up for the occasion and started for Johnson's for some things, on "Buttons." A couple of Navajos came in and we gave them their breakfasts but they "no savvy" cabbage. Fred cut my hair and I shaved. Prof. came down and invited Fred and I to come up to the tent and have some melons. While there were visited by some of the Navajos. One they call "John" is a famous warrior. I well pleased with his appearance. Was a fine looking fellow, tall and dignified. Prof. got quite a Navajo vocabulary from him: "lo lo mi Lo lo mi" Yes: "To la mi" Owe. Gave them some tobacco and flour. Five of them went back home having finished their trading; the rest will go to the other settlements. The Mormons are uneasy about their appearance and refuse to feed them. One of their (Navajo) mules died and today they are having quite a feast. Prof. settled with Adair. Fred called me at 2 o'clock this morning to take observations; will sit up tonight till 2:00 tomorrow morning. Jack returned at 8 o'clock, brought some candy and apples; said that Beaman's negatives were "catch wano"—too thin, &c. The nights and mornings are growing quite cold with disagreeable winds.

Sept. 23rd. After breakfast helped Adams grind a scythe. I feel stupid and miserable. Am tired and worn out; this sitting up half the night is no joke. Slept nearly all forenoon then took camera down to Mr. Mace's to get it fixed and a new box made. Our bath bottle broke and bath spilled. Commenced cleaning glass. Baked a gay loaf of bread in Mrs. Hamblin's oven. Day spent as usual. At noon Bishop [Anson P.] Windsor and Perry [Parry?] drove up from Pipe on their way to Salt Lake City to Conference. Went down to Bishop Steward's [Levi Stewart] after some of Cousin Nellie's things just arrived from the Buck-

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This phrase of Indian jargon appears often in the journals of the Powell expedition. The variously spelled "kotch," "cotch," or "koch" in Paiute meant "no" or "not"; the word "wano," "wino," or "wyno" was a corruption of the Spanish word "bueno," meaning "good."
skin. Was treated to some melons and to a sight of the pretty operator, a late arrival at Kanab.

Sept. 24th. After breakfast went out with Jacob to the "field" and cut and shocked corn till noon. Returned and we 3, i.e., Jack, Fred, and myself celebrated Prof.'s 35th birthday at Cousin Nellie's tent by getting outside of untold quantities of cake, custard pie and melons. Mail day but no mail for me. Cousin Nellie received a letter from Bram saying that Ben and Jud had been visiting at Naperville; that Ben was better. Took my gun to pieces to clean it; could not get a screw out; took it down to the blacksmith and left it there till tomorrow. Had a late supper. My turn to "stand guard" till 2 o'clock a.m. Have been writing my diary up for the last 8 or 10 days and reading King's "Mountaineering in the Sierra Nevadas." 'Tis highly colored but the description and language are fine. Jack cleaned some 50 glass today.

Sept. 25th. After breakfast went down to the blacksmith's shop and took my gun to pieces; boiled the pieces in hot water and thoroughly cleaned them. Ate dinner at Jacob's as per invitation. Cousin Nellie spent the afternoon at our Hogon sewing, &c.; made us a dish of succotash. She is very kind and is always doing something for us. The boys would do anything for her and think that she is the dearest little woman in the world.

Sept. 26th. Fred called me at 2 o'clock as usual. Nights are cold and sitting up is tiresome and tedious work. Put my gun together; it is in fine order now. Fred made a slide for my plateholder. Jack has been cleaning glass. Prof. up nearly all night; nearly froze to death. After supper Jack, Fred, and I took a walk around the suburbs of Kanab; were treated to music by the P[ali]ute band.

Sept. 27th. Up half the night taking observations. At noon half a dozen Navajos came riding into town and camped down at Steward's fence. After dinner went down to examine their blankets, talked to them as well as I could and told them I would trade them a couple "cayuses." Three or four of them came up to camp, and treated them to melons, rinds and all; gave them their supper. They expressed their thanks by "wano key" and asking for more. Joe and I went down to their camp in the evening.

Sept. 28th. Joe went after the horses while we fed the impatient Navajos. When at last they did come (i.e., the horses) I bought "Dick" and Fred "Yager" for $25.00 each. Traded "Dick" off for 4 gray blankets; Fred got 5 for his animals but

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20A telegraph line had been run from Salt Lake City to St. George, Pipe Spring, and Kanab in 1871. The operator at Kanab was a young lady, in pursuance of Brigham Young's idea that such office work was the province of women rather than men.
not near so nice as mine. Prof. wanted me to give him my best
blanket and call "Dick" square, but the blanket belongs to Fanny.
Made a bridle for one of the Navajos and tried to trade him
out of his moccasins and leggings. Tried to buy another horse
but could not find one cheap enough for my purpose. Tonight
is our last night for observation.

Sept. 29th. One of the Navajos is in a terrible sweat to
trade for a horse but Prof. has none to spare. Four of them left
for Long Valley and the other two going home. At about 11:00
a.m. Cousin Nellie, Fred and I started up the Kanab Cañon
on a kind of picnic excursion to the cave lakes about 6 miles
from camp. Stopped at a spring in a side cañon to eat a melon
and then went on up to the lakes. Found Prof. there with our
dinner. The lakes are really a curiosity and very pretty. Built
a fire inside one of them and ate our dinner very cozily. I forgot
coffee and sugar, unfortunately. After dinner was over Prof.
returned to camp as he had work to do. Fred and I went to
some other lakes to try to shoot some ducks while Nellie gathered
some flowers. I carried "Fuzz" most of the way back as he was
pretty well tired out. Cousin Nellie's horse stumbled and fell but
no harm done. Passed by the P[a]iute camp-fires; rather roman­
tic. Got home by 8:00 o'clock and found that Andy had returned
from Beaver with rations and stuff to trade with the Moquis.

Sept. 30th. Last night Fred and I slept soundly and without
fear, for our hourly observations are over with, thank Heaven.
All of us at work repairing saddles, cinches, pack-saddles, &c.,
&c., &c., all day long. The "Colonel" still belongs to the party
and is a first-rate good fellow. I helped Mr. Hamblin a little
with his hay. I have made me a tip-top bed in the wagon-box.
We are expecting the Maj. in every day.

Oct. 1st, [1872]. Showering all day long. Hard at work fix­
ing up for our trip across the river. Mail day. Received a letter
each from Morris and Fanny, also one of my "Tribune" letters.
Fred got a letter from Bishop, he (B) is principal of a high school
in Salt Lake.327 In the evening Jack read my letter (printed)
aloud to the boys. They thought it was "wano," especially Fred
(?). Did some washing and mending; my wardrobe is rather
slim just now.

Oct. 2nd. Beaman has left for the city. Busy all the fore­
noon arranging my personal sacks, &c. At noon Maj. came
in from Pipe Springs looking well and hearty; Jones came in
later with the packs. Maj. said he wanted us to take the best
outfit possible over the river and wanted us to start as soon as
possible. Andy is to go with us instead of Joe. Showed Maj.

327 The Morgan Commercial College. Next year he joined the staff of the
University of Deseret (now University of Utah). See this Quarterly, vol. XV, p. 136.
the negatives of Kanab Wash; he was well pleased. Spent the evening pleasantly with him and Cousin Nellie at the tent, Prof. being busy at the observation tent. Spoke to Maj. about my salary, but he gave me no definite reply but would talk it over.

Oct. 3rd. Camera boxed and tripod finished nicely; fixed our chemicals, &c. Put a sight in my gun. Had a lot of fun to see the broncho mules buck when we tried to pack them. In the afternoon George Adair came in with a lot of grapes, peaches and wine of which we had a bountiful supply. Fred has a bad leg and thinks of leaving for home at once. Deacon is complaining; Maj. is poisoned with ivy. Fixed up my own saddle and bridle and made me a belt and knife-sheath. Spent the evening with Cousin Nellie talking about home and friends. Have been writing my diary. Jacob [Hamblin] butchered a steer for us tonight so we will have fresh meat once more.

Oct. 4th. After breakfast Maj., Jacob, Jack, and I drove over to the Paiute camp to picture it; were at it nearly all day. Braves, squaws and pampooses [papoozes] were done up in the most artistic fashion, as also was the Ancient Arrow Maker. Prof. and Maj. gave Fred and I "Dick" and "Yager" with their compliments (take it as you choose). Evening has set in cold and windy. Maj., Jack, and I had a long talk about our Moquis trip, at the tent. Made me a belt. Ate dinner with Jacob's [family?]; had a feast of fruit, peaches and grapes. Maj. bought a mule of Hamblin for $100.

Oct. 5th. Went over to the Indian camp to finish taking pictures. Took 5 or 6 negatives, one of the Arrow Maker, one of them kindling a fire and others. Returned in time for dinner. Maj. received a dispatch from St. George calling him there; left at about 4 or 5 o'clock. He gave me his overcoat to take to the Moquis. Jack came to a definite settlement about his wages with him; I will wait till I come back from the Moquis. Joe went to Pipe after the broncho. Indian Frank was thrown from his mule, quite laughable. Maj. bought another mule for $50. Jacob busy jerking meat and getting the articles to trade in shape. I took "Gray Billy" down and got him shod at the blacksmith shop. Spent a pleasant evening with Cousin Nellie.

Oct. 6th. After breakfast Jack and I started for Johnson's to get such articles as we needed; I got a pair of shoes and spurs. No one there but the girls, who were quite lively. Bought some wine. Got to camp just after sundown.

Oct. 7th. Bought a six-shooter of George Adair for 11 dollars; paid him the 4 dollars I owed him for the lasso. By the by Capt. Dodds has it at Uintah so 'tis a dead loss. Took a picture of "Fuzz." All of us busy in getting rations and things ready for our trip. Mr. Bunting and the "Col." at work making bridles, alfogias [alforjas=saddlebags], &c., &c. Wrote a letter
to Morris. Cleaned my revolver. Jack got George’s other Colt’s at a bargain. Think we will get off tomorrow. Fred’s leg is in a bad state; he will stay at Kanab at present. Prof. and George are going over on the Buckskin. Jones and Joe down the Virgin.

Oct. 8th. After breakfast I went to Mr. Oakley’s to buy a gun for Cousin Nellie; not liking it, bought her a Remington six-shooter almost new for $10 of Robertson, the blacksmith. A dozen Navajos returned from their trading tour up through the settlements and are now going home post-haste. No mail today, or rather it has not arrived as yet. Joe brought up the animals so we are at last ready to go, thank fortune.

Oct. 9th. Up early and commenced packing up. Will take the wagon as far as the Pahria to save 3 or 4 days’ packing. Mail in this morning; received a letter from Morris. Jack and Andy went with the wagon while Jacob went to Johnson’s to buy a few things necessary to trade. I drove the loose stock on “Buttons.” Bade Prof., Cousin Nellie and the rest “All Day”; they wished us a pleasant and prosperous trip. Watered our stock at Johnson’s for fear that we could not get any at the Wells; had quite a time of it and it delayed us. Bought a pair of spurs for Andy and Jacob, some lead, caps and powder for the Moquis. Reached the Navajo Well long after dark, had supper—then to bed.

Oct. 10th. Jacob and I are now bed-fellows. Were wakened by daylight by Fred and Charlie Riggs riding up with a dispatch for Jacob stating that some Navajos had stolen stock, some 75 head, so Charlie and Jacob left to intercept them at the Crossing. Fred let Jacob have his gun and returned to Kanab. We then hitched up and started for House Rock, 40 miles away. Reached the Springs by 9 o’clock tired and hungry.

Oct. 11th. Up off by 8 o’clock. Reached the “Pools” at 2 o’clock and watered. One of the Lee families are camped there; are going to put up a shanty for winter. Found Joe Wood there. Started out and reached Clear Creek after dark some 25 miles from House Rock. Found a deserted [gold miner’s] “Rocker,” which made splendid firewood. Saw a Navajo fire across the river. Boiled our “Murphies” [Irish potatoes?] and slept soundly.

Oct. 12th. Started by 8 o’clock and reached the Pahria, 15 miles away, by 3 or 4 o’clock. Took the wagon across the Pahria with considerable trouble. Got stalled once or twice. After we got settled started for John D. Lee’s. Found Lee and Jacob coming over to invite us to supper. Jacob, thinking that there wasn’t much in the report, or more likely that the Utes were the robbers, took the trail from the Pahria settlement over the mountains and reached Lee’s about the same time that we did. Had a very good supper and then returned to camp.
Oct. 13th. After breakfast we tried to raise the "Nellie Powell" to cross over with, but it was so firmly bedded in the sand we gave it up and concluded to build a skiff. Lee invited us to take our meals with him, so we gave him our rations, and board at his "Hogon." After dinner Lee sent one of his boys to the "Pools" after his tools. In the meanwhile we made 12 or 16 "knees" for the boat. Then Andy and I helped Lee cut and haul corn till suppertime. Lee told me my fortune—of course a good one.

Oct. 14th. Jack, Andy, and I cutting and hauling corn till the whole field was gathered into the corral. Jacob and Lee working away at the skiff. Lee's boy returned in the evening bringing with him a black mare and colt; bought half [i.e., a half interest] for $37.50 to trade to the Moquis. Returned to camp at night.

Oct. 15th. At work all day building the boat and by night had her ready to pitch in the morning. Concluded to buy the other half of the mare and colt so gave my rifle and $20 cash for them; will not deliver the rifle until my return. Mrs. Lee will send over a sack of cotton for Jacob to trade for her. Jacob bought 50# for the Maj. Had a first-rate supper.

Oct. 16th. After breakfast pitched the boat and then hauled her to the river: then swam the animals over and then took over our traps, &c. This took us till about 3 o'clock. Had dinner at Lee's, then crossed over and by the time we had packed our animals the sun was sinking behind the cliffs. We struck out however by moonlight, skirted the base of the cliffs to the southwest, climbed and descended one steep dangerous cliff safely and at about 10:00 o'clock camped at Ten Mile Spring. Turned in without getting supper.

Oct. 17th. Up early and after a hearty breakfast started out, still keeping along the base of the cliffs that rise above the Colorado. The trail was rather heavy and led over many a gulch. At about 4:00 o'clock we came to an alkali creek about 15 miles from our last night's camp, and camped on account of its being the only water for 18 miles. Had a good deal of trouble in getting wood enough to bake bread by. Some of the animals taking the back-trail—we hobbled them. Jacob whiled away the evening "yarning."

Oct. 18th. Up early. From here we turn south. Traveled steadily along till past noon when we came to water in Lime- stone Cañon. Camped for dinner and once more pushed on with nothing to greet the eye but a wilderness of sand, with here and there lying scattered about a rocky butte or a distant range of cliffs. Toward evening we climbed a difficult cliff and

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188 Cotton was being raised at St. George. Evidently Mrs. Lee had raised some in her garden.
found ourselves in a cedar forest. The sun went down but the moon lighted us on our way to the Thousand Wells which we reached by 9 o'clock. Have made a long weary journey of 35 miles today. Ate a hearty supper and turned in.

Oct. 19th. After breakfast Jack and I took a few views of the "Wells" but most of them were dried up. They were composed of numberless pockets in about 50 acres of sand-rock bordering a cliff. Looking off to the south the San Francisco peaks loomed dimly through the morning haze; they are grand "Pe-up" mountains. After dinner started eastward over the desert. Crossing the valley we entered the cedars. Made about 12 miles and made a dry camp at 8 o'clock. Jacob entertained us with a history of his past life.

Oct. 20th. Up early and off for water for man and beast. Jacob shot a rabbit which was good when cooked at Whitmore's Pool, 10 miles from our last camp. After nooning for a couple of hours started again traveling a little east of south. In the middle of the afternoon met Miss-am-to-wa and another Navajo going to Kanab to trade. Gave them some tobacco and a note to Cousin Nellie telling her where we were. In stopping to pick a flower "Buttons" started ahead on the trail. I mentioned my opinion about it when I overtook him again with a cedar limb. As the sun sank to rest we went into camp in a little valley of cedar, among a cluster of buttes, but no water.

Oct. 21st. Off by 7:30 a.m. Yesterday we made about 25 miles. Had not gone far when we met our old friend, Ko-neko, and 8 other Navajos going to Mormondom to trade for "Cavaisos" [caballos—horses]. I offered them my colt for some blankets. One young fellow was going to give me 3 big ones for him, but his father seeing [this] was a rather a big price for the colt stopped it and offered 4 for the mare, and I refused. Wrote them a recommend at Jack's request, bade them adieu and separated. They are well mounted and had plenty of blankets. The "Base Ball Cap" chap was among them. We still keep the San Francisco Peak to our left. Buttes are continually rising up around us but we travel through a waste of sand. At about sunset we came to the Quick-em-to-weap (Buffalo Land) lying within the Mou-em-copy [sic] Wash. The above "To-weap" is a mass of curiously eroded rock and variegated sandstone resembling at a distance well laid-out towns, burnt over. 'Twas here that George A. Smith was killed by the Navajos in '60. Went into camp at one of the springs. Have made about 78.

Oct. 22nd. Jacob was quite sick last evening. After break-

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208Moenkopi Wash. The party visited Moenkopi village on its return. See J. A. Little's biography of Hamblin, for the killing of George A. Smith, Jr., also this Quarterly, vol. 12, p. 165.
fast was over with, Jack and I started out to take some pictures. Climbed a butte some 400 or 500 feet high but finding our water "salt," 'twas no good. A park of 200 or 300 acres, level and green, nestled among the red and white buttes. After dinner packed our traps and started on our way. The sky became overcast with heavy clouds and a cold damp wind from the north threatened rain; it was cold. Traveled steadily onward only stopping to fix a pack now and then till dark, making 10 or 12 miles. Went into camp among the cedars for shelter but had no water save that in our canteens. Andy tried to boil some beans for our dinner today but only half succeeded on account of the water being so salty, but we ate heartily of them and now we feel the effects of them, so no supper was thought of. We made a wind-break of cedar boughs and arranged everything in case of a storm. We then built [a fire] at the foot of our beds and smoked and talked around it till late. There is something cheerful in a camp-fire.

Oct. 23rd. Rose bright and early; got breakfast, packed and started. On reaching the top of the rise some 3 or 4 miles from camp we saw the [Third or West] mesa on which Oryba [sic] stands. To the southwest rose some curiously eroded peaks that Ives describes in his report. The storm passed away during the night but left the air cold and raw. Our trail still leads over desolate wastes of sand with here and there patches of bare sand rock. After going 10 or 12 miles we suddenly came to Hotervill [Hotevilla] or the Oryba Garden. Found a couple of Moquis women and one man gathering the crops. 'Tis watered ingeniously from a spring nearby. The garden is planted on the side of a cliff for protection against robbers. They, the Moquis, gave us a few tomatoes while we watered our stock. Climbed the butte and continued our way to the town. We at last came to the dugway along which the trail leads and after winding around for a couple of miles came in sight of far-famed Oryba—a lot of stone houses built on the point of the rock. Soon the blanketed Moquis flocked to the tops of their houses to see the

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230 Oraibi ("place of the rock") was the largest and most important of the Hopi villages in northeastern Arizona, and it has always been most reserved among them in relations with the whites. A Shoshonean people, the Hopi have been known to the whites since Coronado's time. Of the seven Hopi towns, Oraibi is located on what is called the Third or West Mesa. Hano, Walpi, and Sichomovi are situated on the First Mesa, while Mishongnovi, Shongopovi, and Shupaulovi are situated on the Second Mesa. The use of the alien name "Moquis" for the Hopis was widespread, and travelers (among them Clem himself) compounded the confusion by applying the name "Moquis" specifically to the inhabitants of Sichomovi. The names of all the towns have been subject to many variant spellings; compare Clem's spellings in his journal entry for October 30 with those of the Mormon Indian missionary, Thales Haskell, whose journal of a visit to Oraibi in 1859 was published in this Quarterly, 1944, vol. XII, pp. 69-95.
show come in, which we did in style. Found out where Triba [Tuba] lived; unpacked and camped. Mrs. Triba then invited us to dine, offering peek, cano and melons, which we partook of heartily, especially the peek made of corn meal and baked in wafer-like sheets. We of course excited a great deal of curiosity and soon had a large crowd around us. As they are great pilferers we watched them closely. Wandered about town looking at things in general. Several Navajos were in town, one of which had a handsome blanket which I tried to trade for but he asked too much for it. The Moquis all knew Jacob. Toward evening a crowd came riding double on donkey from a husking bee from the field below. The belles in the market wore their hair done up in knots on the side of the head looking for all the world like rams' horns. One Moquis named Enoch, could talk English very well. I took quite a fancy to him. He wanted to trade me four blankets for my mare; “Oh yes! me want him!” but I could not see it in that light. Went into several of their houses and saw their mode of living. The houses are substantially built and plastered on the inside, a small fire-place being in the corner. Saw Tuleta, the fellow the Maj. left at Santa Fe. The town contains perhaps some 300 or 400 people. Their buildings are connected and line narrow, dirty, filthy streets. One has to go upstairs to get into them, being built that way for protection. At sunset I asked one of them for some peek. He immediately invited me to his “Ho-za” and placed before me a bowl of meat, vegetables, soup, &c., &c.; cheerfully mixed some peek and a luscious melon. We had quite a lively conversation, as I had the keyword of the language, “Em-match-ee,” (what is this?). Then I took the coffee pot and boiled some coffee for supper. They sent a melon and some peek to camp. Well, I have seen the Moquis. Oh, yes! In this town are several “Albinos,” white Indians. Late at night spread our blankets by our traps and went to sleep to dream of Moquis.

Oct. 24th. Held a consultation this morning and concluded to go to the farther towns and work towards home, so while Andy went after the horses Jacob rustled some peek while Jack and I boiled some coffee. Wood is a cash article, as there is none within 5 or 6 miles of town, and is packed here on their (the Moquis) or on donkey’s backs a little at a time. Triba

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31 Chairman, Chief Tuba, who moved to Moenkopi, was baptized a Mormon, visited Salt Lake City, and was a great friend of John D. Lee. Tuba City, Arizona, was named for him.

32 These albinos gave some substance to the theory among Mormons that the Hopi were “Welsh Indians,” descended from a lost colony of Welshmen. Brigham Young at one time sent missionaries to these people in an effort to verify the legend and tried to induce them to move north of the Colorado; but Mormon missionary efforts among the Hopi were never very successful.
however gave us a few sticks. Their gardens are on the bottoms below. They depend on rain from heaven to water them and in times of drought will pray, fast and make medicine for it to rain. They are all on their housetops before sunrise to watch the rising sun; they then solemnly descend and eat. My mare and colt struck their fancy and [they] were eager for a trade. We tried to get one of them to go with us to the other towns as interpreter, but could not. After we had packed up started winding down a long bad dugway to the bottom below. The little colt jumped off of a place some 12 or 15 feet high; thought he had broken his neck but he walked off all right to my satisfaction. Now by this time the Indians of the other towns had heard of our arrival and were beginning to string into town with blankets and skins to trade. We told them we were going to Wallapi [Walpi] and would trade there but they did not want to seem to go there [sic] for some reason or other and were disappointed. Several of them followed us on horseback part of the way asking us to trade every now and then, but they soon left us. Finally a half-dozen came running up driving donkeys before them packed with stuff to trade, but Jack told them "Kawung-wa" and they left us. Our trail led across the bottom some 10 miles then over a butte and then across another 10 mile bottom, when we came to their gardens and sheep at the foot of the butte on which they live. Had to go around to the other side before ascending a broad well-made dug[way] winding and gradually rising till at last we were on the top and in the final town. There are 3 towns on this mesa, the 2 farthest apart being only half a mile. We passed through the gaping crowd to the center town where to our surprise we found a couple of white men, young Crothers and an interpreter named Wallace. Crothers is son of the Moquis’ Agent, and is here teaching the young ideas how to shoot; has quite a class of pampooses [papooses] as well as Indians of larger growth. Charlie and Mollie are two bright children of about 5 or 6 years of age; can read and talk a few words of English. The chief gave us a room in which we camped, giving our animals in charge of an Indian herdsman. Begging a little wood we soon had supper over with. Wallace informed us it was against orders to trade or give powder to the Indians on account of their trading it to the Apaches; we however will trade it on the sly. We had of course a house of Indians jabbering and smoking. They smell fearfully and are extremely filthy. No wonder the smallpox has decimated them. The room we are in is about 12 x 20, well-plastered and with a small fireplace in one corner; the door closes with bars. The Moquis, showing a disposition to spend the night with us, we persuaded them to leave.
Oct. 25th. Commenced by fixing our traps, getting ready to trade. Found our best broken, also the ground glass to the camera, so it took us all day to get the traps in working order. Trade went off lively, Jacob buying skins, blankets, pottery, &c., for a few strings of beads. Of course the room was crowded, the Moquis watching a chance to steal. Bought a few onions for supper. Several Moquis made me offer[8] for my mare and colt but none that suited me. Made one of them (a Pah-Ute) mad because I would not trade. In the evening Jacob traded some ammunition secretly, going to one of their houses. After trading was over with was invited to a kiva to a dance. They had a lively time of it, the men stripping to the breech-clout and went stamping around in a circle keeping time to an old drum and shaking a gourd in each hand. A squaw was between a couple of men, their bare feet tripping most fantastically. The orchestra of old men chanting with tears rolling down their cheeks. After enduring it awhile, retired.

Oct. 26th. The traps are all out of gear and the wind and weather will not admit of first-class pictures. Occupied our time today in making groups of Moquis gathered in front of our "Hogon." The weather growing colder in the afternoon were compelled to suspend photographic operations. Orand and myself went over to the old Moquis town at the invitation of a Moquis who gave us some peek and melons. Suddenly we heard a terrible howling among the inmates; was told that a Moquis "Mahala" had yaquard [?]. Saw how they made peek. A short time ago a Moquis fell off the mesa and wonderful to relate, is still living. Saw the place, at a narrow neck that connects the two towns, where the Moquis had thrown over thirty-five Navajos; could see their bones and blankets among the rocks below. Just under the cliffs are the sheep corrals into which the sheep are taken every night. Andy came in at night with the animals; Jacob and I went after 3 that left the band off the mesa.

Oct. 27th. Weather very cold, the wind blowing a perfect gale, so the picture business was out of the question. Passed a weary wretched day; passed the time with Wallace and Orand as we had no wood to burn. Jacob traded off a couple of animals to them for 2 of theirs, getting yarn, manta, blankets, &c., to boot. The yarn and manta of course was smouged from the government. Trading is about over with, will finish at Oryba. Have got a nice assortment of pottery, baskets, skins, moc-casins, leggings, &c. Orand and I made a visit to a Navajo-Moquis that had just come in from a hunting trip over at the San Francisco Mountains with some 35 buckskin, a mountain lion skin, besides. Others wanted to trade for my mare and colt. Gave us some mescal [mescal], and oose to eat; 'twas so sweet
it sickened me. Dancing going every night but do not care about seeing them. Roasted onions, bread and jerk form our principal bill-of-fare at present. 'Tis the most low-spirited hole I ever was in.

Oct. 28th. Taking pictures all day and finished up the 3 towns much to our satisfaction. Will lay over tomorrow to see and take the cochine [kachina] dance for which they are making extensive preparations. Traded with a Navajo for his wristlets. Offered me 3 blankets for my colt but they not suiting my fancy, refused. He then offered me $1.00 for my revolver. A laugh spoiled that interesting swap. Said he would piqua (?) [travel] to his hogan after some bonita-pal-cladies [good blankets] for me. So off he started with my regards for his squaw and children. A few of the Moquis have Navajo squaws. Saw one of them weaving and made a picture of her. Moquis men do their weaving in the kivas. We got some Moquis to get us a jug full of water every morning—enough to last us during the day. Jack had his music and revolver stolen from his sack, much to his disgust. A small band of Apaches came riding in to trade. They are wicked-looking fellows dressed in buckskin, armed with long lances and bows and arrows.

Oct. 29th. Jack and I took a few more pictures of the Tawa town. Went down in one of the kivas in court to see the men dress the squaw for the forth-coming dance. All around town fires were built and meat, peek, vegetables, corn, &c., cooked for the feast after the dance. Several Navajo friends were invited and came riding in, gaily dressed. At about noon we heard the drum sound and hurrying into the court saw the fashion and beauty of Wallapi issuing from off the ladders leading from the kiva. A full quoir [choir] stood at the head of the court while the dancers numbering about 40 or 50 went through the pow-wow in front of them. A couple of devils, and a couple of clowns did ample justice to the occasion. Their dress would be hard to describe; paint, feathers, brief costumes and evergreens were conspicuously displayed. They would dance for half or three-quarters of an hour at a time, then retire for rest and food and then at it again till the setting of the sun, when the grand feast commenced. After that important item was over with they danced all night till broad daylight, in the kiva. The monotonous chant, the dismal sounding of the drum, the rattle of cochina gourds and the pattering of bare painted feet was heard in the wee small hours. We stood it as long as flesh and blood were able and then rolled up in our blankets. During the afternoon we succeeded in making one or two instantaneous views

168Tewa-speaking Indians migrated here from the Rio Grande Valley in the 17th century, and adopted many Hopi ways. Their village is called "Hano."
of the dances. Took a picture of Wallace. Made a trade with Orand; gave him a pair of spurs for a Navajo blanket and a knife for a Navajo whip. They, Wallace and Orand, have not proved themselves very hospitable. Jacob did the herding of the animals today. Last night they broke out of the corral, went down the mesa and got into the cornfields. Have been besieged all day long for damage money. The amount eaten was enormous and the price fabulous, but a little indigo and a few strings of beads settled it. Well, tomorrow we leave. I never was so sick and disgusted with anything in my life as I am with these Moquis, they are a "Bilk."

Oct. 30th. After breakfast we packed up and were soon off the mesa. Had trouble driving the animals for they were hungry and were continually making bee-lines for the adjacent cornfields. We watered them at one of their reservoirs. Were followed by a crowd of Indians but as we advanced they kept dropping off by ones and twos, only a couple following us to the 3 towns on the opposite mesa, about 6 miles distant. The towns on the rock [First Mesa] that we have just left are Tawa [Hano], Wallapi [Walpi] and Moquis [Sichomovi]. The ones on the rock [Second Mesa] before us are Machameneva, [Mishongnovi], Chama Pavates [Shongopovi] and SheSpalava [Shupaulovi]. Camped a few yards below Machameneva. The inhabitants regard us with suspicion. Andy took the animals down, Jacob kept camp while Jack and I photographed the towns. Saw several Albinos. 'Twas this town that Ives first struck. Finished the town before sundown and returned to camp. A few Moquis came around looking and talking about us but not offering to trade, except one old fellow that wanted my mare and colt; invited me to his house to supper and to show me his blankets. Around a huge pot or bowl filled with both animal and vegetable compound and a couple of baskets of peek, we sat, 10 in number, eating with wonderful ease and dexterity with our fingers, till we had an elegant sufficiency. Rising with a "Qua-Qua" I politely inspected his pashelas and not coming up to my fastidious taste, gravely declined, much to his disappointment. I then made a circuit of the town seeing several "elephants" of dwarfed size [burros?]. However, Jacob coming up, we tried to buy a little water from them, succeeding in getting enough for supper, for a box of caps and a few bars of lead. Andy coming up supper was soon over with. Jack and Andy concluded to camp out with the animals, so taking their blankets, left Jacob and myself to watch camp. Jacob had trouble with these fellows last year because he refused to pay them for the corn their animals had eaten one night. The Indians kept us around the fire till late.
Oct. 31st. I got breakfast and expected that Jack and Andy would be up bright and early. We waited awhile but they not coming, ate finally about 10:00 a.m. They came in with only 8 animals; said that the Indians had run them and scattered the stock (with hobbles on); had hunted for them till midnight and ever since daylight this morning, and could only find 8. Presently we saw the other 4 nearby and Jacob went down to get them. While eating breakfast, an [sic] Wallapi Moquis came in with a note from Orand saying that he had found his (Jack's) music and herewith sent over by a runner; also stated he would like Jacob to come back and go with them to Oryba tomorrow. We soon had Chama Pavate boxed by noon, had packed up and were moving toward the Palava, about a mile farther on. In going down the mesa descended 69 stone steps with our animals. 'Twas a dangerous place and 'twas a wonder that the train ever got down without an accident. On reaching the foot came to a reservoir, a beautiful spring bubbling up cool and sparkling among the rocks. There we watered our stock and soon were climbing into the farther town. Our arrival caused no excitement or curiosity, apparently. Found my old Navajo with a comrade there. We soon had the town photographed; 'tis by all odds the neatest and best-built town of the seven. The old Navajo again offered me a trade but not having the right quantity of blankets, refused. Jacob here left us going back to Wallapi to see the 2 white men, while we 3 started toward Oryba. Met a couple of Navajos who were also anxious for a trade. After descending the mesa found that I had dropped my saddle blanket. Climbed the cliff after it and following the train for a couple of miles overtook them just as they were going into camp. As we were unsaddling, up came the 4 Navajos that we had seen at the last town. They at once unsaddled and camped with us. We threw our things into one pile and made our beds on each side, for Indians are Indians and will steal. The Navajos rustled brush for the party, and after getting our supper handed them the frying pan and gave them a lot of dough and all the meat that we had with us. They understood the business, handling the frying pan with an ease and grace most surprising. After supper was dispatched they commenced business by showing some handsome blankets. I wanted 10 blankets for both mare and colt and was firm in my demand. They were shrewd fellows but were bound to have the animals, and slowly threw down blanket after blanket till the required number was reached. We then shook hands and said "Wana hey-i" and the bargain was made, each well pleased with his trade. As I had taken all of their "pal cladies" and as it was "Monche freio carajo" lent them the blankets to sleep on. They were jovial, fun-loving rascals, sharp as a whip, and although
we could not understand them they kept us in a continual roar till quite late, when we rolled up in our blankets.

Nov. 1st, [1872]. Up early and not having water, breakfast was out of the question. The Navajos drove up our stock, skillfully lassoed their recently-acquired property and after asking us for some flour, departed with a whoop, while we packed up and started for Oryba some 6 or 8 miles distant. We were soon climbing up its stone steps and unpacked at our old place back of Tuba's house. Mrs. T. gave us a dinner, or breakfast, rather, of peep, melon and the "compound." After it was over we set up tent and camera and soon had the town of Oryba boxed up. Pictures have not been a success but the impression will be good to engrave from. Got a couple of quivers for bow and arrows. Traded off the six-shooter for a staving nice blanket for Cousin Nellie. In the afternoon Jacob, Wallace and Orand came riding in to have a pow-wow with the Moquis to see if they would not accept some $4000 or $5000 of stuff from Uncle Sam. After a late consultation they concluded not to accept them as it was against their ancient traditions.

Nov. 2nd. Last evening Orand and I went around to Tuba's hogan and had a gay supper of peep, tomatoes and beans. To day Jacob had hard work in getting the rest of the stuff and finally could only get part, the Moquis looking on us with distrust. Got a couple of looms with blankets partly woven by paying big prices. Wallace and Orand left us at noon. Triba is going to the Mou-em-copy tomorrow and Jacob has decided to go with him; as it will be about as short 'twill make no difference to us. The usual crowd of Moquis around us all day, watching for an opportunity to steal. Some of them can talk pretty good English. One of them named "Lie" staid with a Dutchman over in Mormondom and the way he talks is really comical. Tried to get some moccasins but only succeeded in getting one pair. In the evening a Moquis invited me to supper. I got some differently-colored peep to take home with me as a curiosity; he sent a melon to camp.

Nov. 3rd. Andy drove up the stock this morning. Breakfast was eaten, packs put on and all ready for the start. We bade Oryba good-bye and the Moquis' towns farewell without feeling of regret but rather with joy. Having more flour than we needed gave Triba part of it for his kindness to us. Triba and another Moquis will accompany us to the Mou-em-copy, 45 miles away. Passing through their cornfields and peach orchards we were once more plodding wearily through the sand. Numerous peaks appeared along the horizon and the San Francisco Mountains seemed quite near; between us and them flows the Little Colorado. Could see where it joins the Grand River.
Went into camp about 4:00 p.m., and after getting something to eat, packed up again and traveled till 10 or 11 o'clock, the new moon giving a faint light. Getting quite tired camped beside the trail. The Moquis having some melons and peck with them had a luncheon around the sagebrush fire; then the Moquis treated us to an evening song as we were rolling up.

Nov. 4th. Up early. The two Moquis started on before us to overtake their animals which had taken the trail to the Mou-em-copy. No breakfast for us as we had no water, but hastily packing up, started. The trail is heavy with sand. Weary wastes of it greets the eye everywhere. After traveling some 15 miles came to the creek looking green, with cottonwoods scattered along its banks. Crossing it, we came to the Moquis houses, some half dozen in number. They have quite a large garden watered from springs. They raise corn, melons, beans, cotton, &c., &c. Turned our stock into their cornfield to feed on the fodder. Had a good dinner of beans and peaches. Some of us having some immigrants [lice], cleaned ourselves, discarding our old clothes and putting on clean ones. The day is raw and chilly and threatens rain. At suppertime Triba invited us to come and sleep in his cabin. As it would be likely to rain during the night Jacob and I accepted. He [Tuba] gave us a supper of peck, melons and onions. We then smoked.

Nov. 5th. Rained some during the night. After a hearty breakfast packed up and started with a Pah-Ute for a guide. We kept around a line of cliffs breaking back toward the north. As the Indian was lame we let him ride, while some one of us would walk. Some 8 or 10 miles out we came to Tuba’s cotton patch; 15 miles farther on to the guide’s cornfield in which were [sic] a lot of melons, squashes and pumpkins were growing. A fine spring coming out of the cliff watered it finely. Had a hearty dinner with baked punkin [sic] for a dessert. On our way again by 2:00 p.m. Looming up in the distance are the peaks that stand guard over the Thousand Wells, but they seem to recede as we advance. There is no trail and 'tis hard traveling. We still keep under the cliffs as they slowly break toward the river. Went into camp at dark, made a sagebrush fire and had a good supper. No water for the animals. Spent the evening as usual around the fire.

Nov. 6th. We left the Pah-Ute at camp this morning, giving him some ammunition for his services. Jack traded him out of his bow for a part of an old blanket. Jacob rode on ahead to see if there was water at Limestone Cañon; if not to dig for it. At noon we struck the trail where it climbed the cliff leading to the “Wells” and at about 4:00 in the afternoon reached Lime Rock Cañon, finding plenty of good water. Concluded
to camp for the night. Watered the stock and turned them out, then got supper. A party of Navajos camped here last night and at some time have herded sheep around here, some of the old corrals still standing, while out in the valley are the remains of 2 or 3 wickiups. Jacob says that they frequently winter their stock here and at times on the Colorado River. Not feeling very sleepy we dreamily watched a pot of beans while under the narcotic influence of the cigarettes.

Nov. 7th. After breakfast packed up; the train started on while I filled the canteens; soon overtook them however. Nothing of importance to note. The thoughts of the long dreary rides are perfectly sickening. Just at dark we reached the Colorado and shouting across to the Lees, soon had the satisfaction of seeing Mrs. Lee and Billy come over after us with the boat. Taking our blankets and what few things we needed, leaving the stock and packs, we crossed and were soon having a good warm supper that Mrs. Lee got for us. Jacob and I browned a lot of coffee and then ground it, enough to last us to Kanab. Mrs. Lee agreed to bake us up a lot of bread so that will save us the trouble of baking. She told us of the trouble she had in crossing the Navajos. She certainly is a woman of pluck. Jacob made her a rat-trap. I cut up a slashing big squash for breakfast while Mrs. Lee put on a pot of beef to boil. Jacob and I then made our blankets on the corn husks.

Nov. 8th. Went to the river before breakfast to cross some of the stuff. In swimming "Buttons" and one of Jacob's horses, they got into the quicksand. Had to do some tall pulling and lifting to get them out; then went back to a good breakfast. After that was dispatched, finished crossing over the packs and pack animals. Packed them into the wagon, hitched up and drove over to Mrs. Lee's and had dinner, then bidding her a fond farewell, started for the first creek. In going over one of the many gulches got stalled; worked away for a couple of hours; made a portage and got across. 'Twas dark when we went into camp.

Nov. 9th. Went after the stock and got a pretty early start, Jack and I doing the driving, one of us walking as it was too cold to sit still. Andy drove the loose stock. Jacob, of course, was a regular "stump on a log." Just at sunset drove into the "Pools" and camped. The "elder" [Lee], of course, gave us a warm greeting and invited us to a supper of mush and milk with his "Happy Family." Gave him the gun. Jacob slept at the house; I slept alone.

Nov. 10th. Jacob and John D. were very anxious for us to spend the day at the Pools and have a "spree," but we could not see it at all. Spent a very cold disagreeable night. Jack and I went after the stock and could have had an early start if it had not been for Jacob. On our way to House Rock met some
of Wheeler’s party on their way to the Pahria. Jacob was afraid they were after John D. Lee. They had a six-mule team in charge of 2 men; some 25 or 30 of them were on the trail. Mr. Thompson said that Grant was elected, which made Jacob draw a fearful long face. Mr. T. also said that our party were all over at Mt. Trumbull. They had “Tom” for a guide. Reached House Rock at noon and watered the stock and had dinner. Jacob felt so bad at the recent news that he started on afoot while we had grub. Passed Wheeler’s party’s camp. Andy drove loose stock while Jack and I took turns in driving. It was night and the moon was shining when we overtook Jacob at the foot of the mountain. We climbed it and camped in Summit Valley.

Nov. 11th. Off by 8:00 o’clock. Reached the Navajo Wells a little after noon. Jacob then sent Andy on to Kanab to let the folks know that we were coming and to have a warm supper waiting for us. I drove loose stock, Jack drove. Got into Kanab just after sundown, weary and hungry. Cousin Nellie was flying about getting us a nice supper. Was glad to see us, did not expect us for a week or more. All of the party are at Mt. Trumbull; will not be in before next week. Only one letter for me from Fanny. Feel very tired.

Nov. 12th. Jack bought some wine. I got a bushel of potatoes; Adair has gone north after flour. Had to borrow some of Reider. Spent most of the day at Cousin Nellie’s tent. The weather is growing cold.

Nov. 13th. While reading in the tent who should come in but Riley just from the Colorado. Has not struck it rich yet but expects to shortly. Has a partner named Richards. We invited them to camp with us as long as they stayed. Indian Frank came in on the Mangum mare with a note from Prof. saying not to expect him for some 8 or 10 days; had gone to St. George. Cousin Nellie is quite sick with neuralgia. Received a good long letter from Morris. Gave Jack one of my Navajo blankets.

Nov. 14th. Day passed at the tent reading, looking at pictures and talking. The weather is quite cold and the stove in the tent, pleasant. Cousin Nellie is very kind. Am sorry she suffers so much with her head. Received news of the burning of Boston but no particulars. Jacob started for Long Valley.

Wheeler’s party was connecting its survey with that of Powell, but there was some coolness between the two leaders. On this expedition G. K. Gilbert made notes for his monograph on the Henry Mountains, which Powell may have considered a trespass on his discovery.

John D. Lee was expecting arrest at any moment for his part in the Mountain Meadows Massacre of 1857. While friendly with Powell’s men, he was suspicious of anyone in government employ.

The Mormons had hoped for a more sympathetic national administration than Grant’s had been. They failed to achieve statehood in 1872 and did not try again for ten years.
Part of Wheeler's men are camped up the cañon at the 3 lakes. Cousin Nellie gave me my purse containing half a dollar.

Nov. 15th. At about noon Cousin Nellie and I had a splendid ride down to the gap and back; it did us both good. Have been writing my diary up for the past 2 or 3 weeks. Gave Cousin Nellie my Navajo riding whip. Got a dozen or 13 arrows from the Indians. Nellie sent us down some nice stewed peaches and butter. We are simply waiting, waiting, waiting.

Nov. 16th. Very cold night last night. Have been writing my diary all forenoon. Am not feeling well at all. Another man killed on the Sevier by the Uintah Utes. This waiting is growing fearfully monotonous. Cousin Nellie and I talk of going to Pipe [Spring] tomorrow to meet the party. Cousin Nellie has just sent off a lot of flowers to Prof. Gray at Washington. A rice pudding went gay for supper. Saw a cloud of dust in the distance and thought it was the party, but 'twas not.

Nov. 17th. Sunday once again; a pleasant peaceful day it is. If it were not for the continual "persecution [persecution] of the Saints," would go to meeting. Consoled myself however, by shaving. Ate dinner at Mrs. Hamblin's. Read most of the day. Jacob came in from Long Valley this evening.

Nov. 18th. Jacob, Jack and Joe went out after some wood. Cousin Nellie and I went out for a gallop of 4 or 5 miles on the bottom; returned in time for a good square meal. Cousin Nellie is severely afflicted with neuralgia in head, back and shoulders.

Nov. 19th. Jackson from Pipe Springs over this morning. Cousin Nellie gave me "Whittier" which I sent to Mrs. Windsor for kindness shown me. Mail day but not an atom for me. Some papers containing the election news. Mormons draw long faces over Grant's re-election. Jack helping Jacob haul wood. Cousin Nellie made us some nice taffy. Jack and I spent the evening at her tent. Got a nice bow from [for?] Frank; Cousin Nellie got him a pampooses bow with some arrows, as she was afraid that he would not be strong enough to draw one of the larger ones.

Nov. 20th. A Mr. [G. K.] Gilbert of Lieut. [George M.] Wheeler's party in camp today. Cousin Nellie sold him a Navajo blanket quite cheap. Am doing duty attending to the horses, feeding, watering and currying them down. Received a dispatch from Prof. at St. George. He (Prof.) wished to know if the Maj. and the Moquis' party were in. We answered accordingly. When not spending our evenings at the tent, sit around the fire singing.

Nov. 21st. Another dispatch from Prof. telling Jack to pack the Indian goods in boxes. [William] Bell of Philadelphia and his assistant photographer of Lieut. Wheeler's party made us a short visit; have just returned from the Pahria. Showed him
our negatives. He pronounced them fine. Invited us up to his
camp tomorrow to see his negatives.

**Nov. 22nd.** After breakfast went down on the range and
brought up "Buttons" and the sorrel mule and at noon Jack and I
started for Wheeler's camp at the Lakes; reached it at about 2:00
P.M. The day was raw and chilly and the camp looked dreary
enough. Bell and [Gilbert] Thompson and others treated us
handsomely. Bell showed us how to develop dry plates; do not
like the process as well as the wet. Showed us his views; there
is too much bare glass to make them first-class. Admired his
dark tent and the conveniences he had for taking pictures. He
(Bell) is heartily sick of the trip. Not inviting us to supper we
left at about 4:00 p.m. Met Lieut. Denwoody [William A. Din-
widdie] and Gibbons on our way to camp.

**Nov. 23rd.** Bell told us yesterday that a party of them were
going to Mt. Trumbull in a day or two and would make us a
visit. Cousin Nellie went visiting today and asked me to take
the 1:00 p.m. observation, but as we got to pitching quoits, it
slipped my mind entirely. Jack boxed up the Indian goods today.
Cousin Nellie returned at dark. Spent the evening with her.

**Nov. 24th.** Cousin Nellie again invited out to spend the
day and left me in charge of the barometer; kept it this time. In
the morning Bell, his assistant, Lieut. Denwoody, Thompson and
others came into camp on their way to Mt. Trumbull. We treated
them to wine, plenty of tobacco and old overalls. I showed them
my collection of blankets and curiosities; thought I had an ex­
tensive lot—were quite anxious to buy some of my blankets but
I of course, refused. We had a jolly time drinking wine, smoking
and cracking jokes. At last we bade them "Au revoir" and
hoping to meet them at Salt Lake. Pitched quoits all afternoon.

**Nov. 25th.** Cousin Nellie spends the day at Mrs.'Olliphant's.
Wrote up my journal for the last 5 or 6 days in the forenoon.
Pitched quoits as usual. At about 4 o'clock was glad to see Prof.,
"Col." and John Renshaw[e] drive up to camp. John R. is a new-
comer. Prof. was surprised not to see the Maj. Spent the evening
at the tent. Cousin Nellie made some molasses candy, which was
good.

**Nov. 26th.** Last evening 30 Navajos came riding into
Kanab and camped at Steward's. They at once scattered out to
rustle for wood; we paid them our quota. After breakfast went
down to their camp. They had some fine stock. Prof. tried to
trade them out of a couple of slashing mules but couldn't. Went
out after the animals, could not find them except the colt; drove
it up and Prof. tried to trade him to the Navajos but 'twas "no
wano." Riley and Dick started for the Buckskin this morning.
Prof. and Cousin Nellie went riding toward evening. We saw
a dust coming down the road: Cousin Nellie and I made a bet
that it was and was not the Maj. Cousin Nellie lost her best blanket thereby. Spent the evening at the tent.

Nov, 27th. Twenty of the Navajos left for the more northern settlements, the others stayed here to trade. At noon went down to the Navajo camp and looked over their stock of blankets; they had some handsome ones. Stayed there all afternoon and saw them trade them off. They traded off the 2 mules to Steward and Ten[y]. Lyman Hamblin came in tonight. As we were sitting around the fire the Maj. rode up; said that the rest of the party would be in tomorrow. Jack and I passed the evening with him at the tent. Maj. told me that he had named one of the Dirty Devil Mountains "Mount Clement"; I wore the new honor with becoming dignity. The Maj. not having his blankets with him, turned in with me.

Nov. 28th. The Maj. called us all up long before daylight. Had breakfast just as the sun was rising. After it was over went out after the horses; got them all up by noon. Cousin Nellie made us a plum-pudding to celebrate Thanksgiving; it was gay. All of us busy boxing up goods, &c., &c., &c., to roll out for Salt Lake City in the morning. I packed the Moquis pottery at the Maj.'s request. The rest of the party came during the afternoon. Gave Fred one of my Navajo blankets. Sat up late around the camp-fire. Went over to Lyman's to see about the amount that he owed me; promised to square up before I left. Spent the evening eating apples and cake, &c.

Nov. 29th. Animals not being shod will not start till tomorrow. Jack and I traded Navajo blankets, I getting 3 for 2. Boxed up my bows and arrows. Fred will send some of his stuff by me to Chicago. Prof. gave me the "Nellie Powell's" flag to give to Steward. We hitched up the team to see how they would work. Joe made a couple of whips; he (Joe) will go to the city with us. Signed 4 vouchers for the Maj.; said he would settle with me at Salt Lake. Got $15.00 from Lyman and a squaw Navajo blanket, so that squared us. Maj. gave Jacob a $35.00 check for John D. Lee, which settles all my accounts. Roasted and ground a peck of coffee at Lyman's, Maj. wondering where I was. Had some wine and candy around the fire.

Nov. 30th. All ready for the final start. Fred will stay and help Prof. on his map for a couple of months. Maj., Jack, Andy, Jones, Joe and myself are the party; will take 2 wagons and Jones and myself riding horseback. Prof. sends $125.00 to get him some books, clothes, and a gun. Felt sorry to leave Cousin Nellie, Prof. and Fred behind. I got the rations together while the rest of the fellows packed the wagons. At 10:00 o'clock bade all a final farewell. Reached Johnson's; were treated to cigars. Maj. set-

[Unfortunately the name was not continued in use.]
tled with Johnson. Met Willie and his wife just back from Salt Lake. Camped at our old camp above the ranch. Just after supper Fred rode up on "Maj." with a sack of papers that the Maj. had forgotten. Maj. bought a half dozen dressed chickens of Mrs. Adair. We will live high as long as the Maj. is with us. Prof. and Cousin Nellie charged me to say all manner of good things to the folks at home for them. Maj. read us around the camp-fire from Longfellow. Fred bunked with me.

Dec. 1st, [1872]. Up long before sunrise; in fact we had breakfast and waited for "Old Sol" for light enough to get the horses. We again bade Fred adieu, he going one way and we the other. Went up the cañon some 10 miles when we struck the Panguitch road. Maj. and Jack stayed behind to collect rocks and fossils. Went into camp at sundown 3 or 4 miles below Upper Kanab; the others not overtaking us, felt rather uneasy. In about a couple of hours Jack came in from above, said that the Maj. and the wagon were 5 or 6 miles above; had taken another road and thereby passed us. Jack ate his supper and took the Maj.'s to him on "Nigger." Made about 28 miles. 'Tis a most wonderful country, greatly broken by a series of 7 lines of cliffs starting from the Colorado. Saw some magnificent cattle and some fine pasturage at the head of the Kakab [Kanab] Creek. We are just under the rim of the basin with the Pink Cliffs, Table Mountain and Potato a short distance to our right. Have been writing my diary up by the light of the camp-fire with Jones growling about his eyes.

Dec. 2nd. Boiled and fried chickens are first-rate; good things to have for breakfast on cold mornings. Started by sunrise, came up to Maj.'s and Jack's camp, 3 or 4 miles above. My horse has a sore back so now ride in the wagon. Left the other wagon and were soon over the divide and going down the Sevier, with the Pink Cliffs on our right. The Sevier is a bright crystal trout stream constantly growing larger as we advance; we cross it quite frequently. 'Tis formed by 2 streams coming together and is fed by springs and other streams flowing into it. Have been traveling down a cañon valley [Sevier Valley] quite picturesque and pretty, with here and there a glade among the pines. Saw several wolves, sagebrush, ducks, &c., &c. Made about 30 miles, passed a number of ranches, and camped at sundown. Maj. and Jack drove in shortly after. Are within 5 or 6 miles of Panguitch. After supper built up a big fire of sagebrush around which we sat, read, talked, sang and smoked till the "Little Dipper" told us to turn in.

Dec. 3rd. Night very cold. Up before morning and off by daybreak. Drove into Panguitch on the trot. Bought and fed grain. Bought half a dozen chickens of De Long and were off again. Drove down the Sevier to where it cañons, about 17

Dec. 4th. Off by sunrise. Bad road through the cañon, 7 or 8 miles long. Crossed the Sevier a number of times; crossings bad and river frozen. At the opposite end found a wagon in the river with 2 men trying to get it shoreward; woman on the bank mourning. Stove at the bottom of the creek and furniture and truck scattered around, bad driving the result. Helped them out of their difficulty. Stove, furniture, cart, whiskey and apples circulated and we parted, rejoicing. Emerging from the cañon into Circle Valley, passing through the deserted town of Circleville, a settlement broken up by the Indians a few years ago. The place seemed haunted with its vacant adobes, with staring doors and windows. Passing on down the valley with here and there a lonely ranch, we went into camp sometime after dark on the banks of the Sevier, where I exercised my talents and time making a plum pudding, which proved to be an entire success. The volcanic ranges still on either side.

Dec. 5th. Started by sunrise. Left Bullionville to our left; passed through Marysville: climbed over the mountains. Coming down on this side found a couple of fellows working the road. Nooned and collected rocks. A fine view of snow-capped mountains from the top of the divide. Found a whip in the road. Passed through Monroe in the afternoon; bought some flour and grain. Went some 8 miles beyond town. Cut through the ice for water; fire of sagebrush. Finished the plum pudding. It threatened snow but only a few flakes fell.

Dec. 6th. As we were getting breakfast the Stewarts and Almer Tiny [Ammon Tenney] passed us on their way to the city. Maj. and Jack went to Glencove after a Moquis' mill [metate]. Left Richfield to our left. Roads bad, full of chuck holes. Nooned with Stewart and Tiny. Glencove to our right. Passed through Saline [Salina] in the afternoon. Maj. and Jack overtook at our camp at Willow Creek. Made about 33 miles today. Our drives average 28 or 30 miles per day. Camped at the ranch of a Danishman. Had quite a jolly time around the camp-fire: had to rustle willows for the fire. Mary's Nipple just across the valley on the top of our right volcanic range. Could see the snow-capped top of Mt. Nebo, called the highest peak in Utah.\footnote{Bishop's journal for August 29, 1870, shows that this mistaken idea was quite common. With its elevation of 11,871 feet, Mt. Nebo is not even the highest peak of the Wasatch range, and does not compare with Kings Peak (13,498 alt.) in the Uinta Mountains.} The ridges of the mountains all along are covered with snow.
Dec. 7th. Maj. offered me $108.00 for my blankets; refused. Maj. and Jack left us and started for Salt Lake City; will get there on the 9th and we on the 12th, if all is lucky. Reached Gunnison by 10:00 a.m. Bought some grain, &c., &c. Maj. bought some 30,000 lbs. of grain for the stock next summer. It is at this place that Prof. will run the Base-Line next spring. Rolled out to Warm Creek, a small settlement on a creek by that name; nooned. Camped at dark, made a dry camp. Made about 28 miles. No feed except our grain, but plenty of wood. Have been writing my diary up for the last 4 or 5 days. Nights are bitterly cold but the days are quite pleasant. We are finally off the Sevier, having bidden it farewell. We are still passing through the two volcanic ranges. Today we caught a glimpse of the snow-capped Wasatch Mountains. Turned in early.

Dec. 8th. [No entry]

[Page ends on page 115. Pages blank until page 162.]


[Page 175.] Koggee nee [k?]lace-Pah-Ute eber wat-se- Put it down there.


368 This note evidently refers to Samuel Adams who had attempted navigation of the Grand River in 1869 and in the same year asked Congress for reimbursement of expenses. Powell makes no mention of Adams, but this entry would indicate he was familiar with Adams' report and that Clem intended making some comment on it.


[On flyleaf opposite back cover appears the following, evidently a list of photographs taken:]

No. 1—Cañon, foot of Potato Valley
No. 2—Upper Johnson's Cañon
No. 3—
No. 4—Sandstone desert from Potato Valley
No. 5—Cañon, foot Potato Valley
No. 6—Looking down gulch near Potato Valley
No. 7—Cañon, foot Potato Valley
No. 8—Hog's Back, looking north
No. 9—
No. 10—

8½ on
11 rapids
1 portage

108 miles
118 rapids run
6 Sport
7 "
W. C. POWELL'S ACCOUNT OF THE HOPI TOWNS

The United States survey of the Green and Colorado rivers, in charge of Prof. Powell and Thompson, is concluded as far as river-work is concerned. It now remains for the correspondent to finish his report. * * * * I have thought that an account of a very curious people, among whom we have been making recent studies, might be of interest and value.

From the beginning of our voyage, evidences of earlier discoveries were abundant. If we climbed some towering cliff to make an observation, stone steps would often aid us. If we made a detour through the desert, and, overcome by dust and heat, sought with success some hidden spring, there would be seen the "pitcher broken at the fountain." If a mountain was scaled, remote, formidable, and the explorer indulged in any of those inspiring and sublime ideas that are suggested by standing where man never trod before, those high-born fancies would be shaken by a stumble over crumbling ruins. If we penetrated the shadowy labyrinths of some dangerous and intricate water-way, ever and anon our wandering eyes would trace a strange handwriting on the walls. When, moving slowly, in single file, the men entered a cave in the canions, we noted ceilings blackened by fires that burned ages since. As we journeyed down the Colorado further details of this "tragedy in stone" appeared. Perched upon the walls that frown above the river, are ruins of Kivas—temple of worship—and, at intervals, implements of stone, flint, and agate arrowheads. Some of the Indians whom we meet speak of a strange tribe that held these natural fortresses "many, many snows ago." These fragmentary suggestions excite our curiosity to know more of the persecuted people. Let us turn to the journal, and make their acquaintance.

October.—Again in camp at Kanab. A party is ordered to start to the Moquis towns. Hillers, Hattan, Hamblin, and the writer promptly prepare, and, on the morning of the 9th inst., are off. Outfit consists of photographer's apparatus, rations, ammunition, and goods for gifts and barter among the "Lo" men of untutored minds. Followed the old trail to the mouth of the Pahria, via House Rock Valley. Hamblin, having received a dispatch to intercept a raiding band of Indians, left the second day out. He rejoined us at the Crossing, after a fruitless errand. The Uintah Utes, instead of the Navajos, had stolen 75 head of horses, and safely run off to their reservation. Thus far our

1This undated letter, printed in the Chicago Tribune, February 25, 1873, was Clem's last communication to that paper, and in many respects is the most valuable of all that he wrote.
stores had been carried in a wagon; it was here abandoned. We made a boat, and carried effects across the Colorado. Some one suggested that the mules' ears be cut off, and a raft made of them.

With 12 animals, we struck southward into Central Arizona, following a zigzagging line of cliffs. We are upon an elevated plateau, seamed and fissured; the sandy levels covered with sage; the landscape broken by buttes and crags. The primeval curse rests upon the land. All that can be expressed by the word desolation is here found in a superlative degree. For nearly 250 miles, we painfully pursued our solitary way, meeting now and then scattered bands of Navajos on trading expeditions, bound to the white settlements. The fatigues of travel were increased by lack of water. Sometimes we had none; sometimes the springs were so strongly surcharged with alkali, we dared but moisten our parched lips with the delusive draught. "It is a long lane that has no turning." At one place, we climbed the cliffs in whose lee the pathway had long led. Traveling for a time through groves of cedars, we came to the Thousand Wells.

There is half a section of gray sandstone, hollowed out into myriad cisterns, that, in the rainy season, hold fresh water sufficient to supply an army. Some of these natural wells, or pockets, extend under the rocks in caves of considerable capacity. The explanation of this singular phenomena is simple: The floods of rain and melted snows gathered on the cliffs above, spread out on this once-level formation of soft rock, and are lost at last in the sands beyond. The waters, rushing down steep declivities, bring with them to the plain detached rocks; these boulders are caught here and there in the narrow channels, turned round and round until a hole is hollowed by attrition, and the stone itself is worn into fragments and carried away. When Nature goes to well-digging, the plan is unique, but the work well done.

The romantic valley of "Quitch-im-tu-weah," [Buffalo Land] and other places of note and interest, were passed. We follow the trail once more, in the shade of cedars, until the base of a line of cliffs is reached. Here are living remnants of the people whose wanderings we so far have traced. Halfway up a shapely sloping hill of sand-rock, are shelves, or benches, worn by the elements, rising one above the other, like a massive flight of steps. Upon the uppermost tier is a spring. The Indians, by a system of grooves and ditches, distribute the water where needed, and manage to raise considerable crops upon these narrow ledges, varying in width from 10 to 20

"Quitch-im-tu-weah" is a Paiute word and I doubt if it applied in that Navajo country. Hamblin may have applied it himself. It does not have anything to do with buffalo, since there were no buffalo in that section at any time. The literal translation probably applied, but cannot be used in polite society. —C.K.
feet. Onions, beans, tomatoes, squashes, pumpkins, &c., are cultivated. There are the terraced gardens of Oryba [Oraibi], or, in the native tongue, Hoterville. Saw the sole occupants and owners—an old Moquis, his squaw, and daughter. They live at Oryba, but tend the gardens in summer. Watered the horses, and ate some proffered fruit. Winding in and around the cliff, we toiled slowly to the top; thence, over a 5-mile waste of level sand; we halt to view the strange scene. From the edge of the plateau, a butte rises; its smooth sides are covered with queer pictures, rudely drawn, representing an attack by mounted men, and a successful defense by the natives. In the valley below, are cornfields and gardens—charming oases. Rounding an angle of the mesa, we suddenly see the Indian City of Oryba.

The whole story is told by the situation. That the people were persecuted, plundered, pursued, is indicated by their living in a formidable desert, where death and desolation repel, and there is little to tempt greed and avarice. That even here they were followed by relentless foes, is shown by buildings strongly made, perched upon the rim of a plateau 500 feet above the valley. A wall, behind the town, closed the principal avenue of approach. The only other way of access is a narrow flight of steps, easily defended, cut in the rock. A huge reservoir, built of solid masonry, stands near. This is kept filled from the springs below, for use in case of an attack or other emergency. As we draw near, small, black, blanketed figures assemble on the house-tops. These prove to be the women and children. It is 3:00 o'clock in the afternoon, and the men are all afield. Our train winds through narrow, crooked, filthy streets, past huddled masses of crumbling rock, with staring windows and falling walls. Although we seem to be objects of intense curiosity, there is no word of greeting, no groups at the corners, no cry of children, or noise of any kind. When any of the little people on the roofs chance to move, they walk with a certain grace of manner, very slowly, and in silence. Arrived at the house of Tuba; we pile our effects against the walls, and go into camp in the rear. The Moquis woman invited us to lunch, and serves a huge melon and a basket of "peke." An Indian took the animals, leading them down the rock to grass. When Maj. Powell first visited these towns, Tuba and wife returned with the party to Kanab, and there remained for a year, acquiring a knowledge of white customs and Yankee speech.

Were met by Tulta [Tuleta?], one of the Chiefs. We were in some fear of Tulta. He started with Powell for Washington,

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* Clem's statement is confusing. Hotevilla was abandoned for many years but later re-inhabited by a group of "hostile" or orthodox Hopis.
but lost his horse before reaching the settlements in New Mexico. (The Navajoes had stolen it.) One day was given to find the animals and rejoin his companions. Failing to arrive in that time, the Major pushed forward alone next morning. Tulta, meanwhile, procured another horse, and hastened after, reaching Santa Fe about an hour after Powell left by stage. An official at that place would have paid the Indian's passage to Denver, but doubted his story. Tulta therefore, returned, and had not since been seen by any member of our expedition. He received us kindly, and, in referring to the matter, simply said that the white man had waited as agreed, and there was no cause to complain. This Chief's special occupation is that of Town-Crier. Every evening, from his house-top he announces the programme for the following day. The Government consists of 3 persons, the principal Chief and 2 subordinates, who arrange the order of public festivals, ceremonies, and general affairs.

Oryba contains 600 inhabitants, exclusive of vermin and such small deer. The houses are built about a central court, or plaza; the streets run parallel to the 4 sides thereof. There are no intersecting highways. The traveler must turn down lanes, alleys, and go around back-yards, in order to get from one street to another. As there are no wheeled vehicles of any kind, and few horses, and, moreover, there is no hurry, the citizens do not find this arrangement inconvenient. The houses are built in blocks, or continuous rows; they are all of stone, cemented with mortar, and from 2 to 3 stories in height. The roofs are flat, plastered over, and made to catch and hold what water passing clouds may drop. Reservoirs contain the surplus. The doors face the court; there are none in the rear walls. These apertures—and there is but one in each of the upper stories—are the only means of admission for the caller, and for light and air. They are sometimes closed by wooden bars, but generally by blankets. Each story recedes from the one below, leaving a landing, or platform, running along the house-fronts. Ladders lead from the ground to the first story; outside steps to the upper ones. The lower room is used for donkey-pens, and storage for corn, &c.; in each of the higher ones, a family lives. In the houses of the richer people, one family occupies an entire house. The rooms are sometimes subdivided; in some, weaving is carried on; others are used for sleeping apartments, storage, cooking, &c. The floors are supported by wooden pillars; ceilings, walls, and floors are always smoothly plastered over.

The Shinemos, as they call themselves, are great thieves. "Jack" [Hillers] had a handsome new revolver, that he carried, for safety, in a sack. An Indian saw the bright treasure; soon a dexterous hand opened the sack, a dusky hand was thrust inside, and, in a twinkling, the pistol was concealed in the ever
Hamblin' and Hillers accepted Tulta's invitation to visit him; Hattan remained in charge of the stores; and your correspondent went forth on a sight-seeing tour. The effect of a naturally formidable appearance was heightened by a huge revolver slung to my side. One of the natives deferentially asked, "You, Chief?" Unannounced and uninvited, I entered several dwellings. Found 2 or 3 Indians who could speak English. I offered to trade horses for blankets, and described the animals in jockey terms. The Moquis answered, "Oh, yes! me want him! so much!" The people speak in low tones, and in a sing-song style. An indoor group of big and little folk chatter in musical murmurs, that contrast favorably with the cries and noise of a frontier household.

About sunset, a clatter and jingle attracted attention. Winding up the mesa, in single file, came a long line of the young people returning from a frolic. All were mounted on donkeys—the brave driving; his "girl" behind him, sitting erect, with folded arms. The women do not ride astride, but manage, without a saddle, to sit gracefully and well. All were tricked out in their most dazzling array. Blankets of bright colors, spangled moccasins, and shining ornaments, made quite a display. Added to all this was the sound of myriads of small bells. There were bells on the arms and ankles of the riders; bells on the feet of the donkeys, that kept up a tinkling chorus, filling all the streets with echoes.

Although the people's voices are not shrill, Oryba is rarely free from noise. Wrapped in blankets, we were seeking repose from the labors of a long day. Suddenly a head, surmounted by 2 enormous ears, was thrust through an opening just above us. Then a startling sound was heard—a rattling, scraping, horrible wheeze. The cry had scarcely ceased when an answer came from across the court, and, in a few minutes, from every quarter of the town the din was kept up. At times it would die away, to be started again by the fiend at our heads; and so the clamor rose and fell unceasingly till dawn.

A mule can make music wherever he goes; but an Oryba donkey can get up, on short notice, the most complete concert for a charivari the world affords.

Early in the morning, all the women of the town march in procession to the spring at the foot of the rock. Each has an earthen jug, holding 3 or 4 gallons, strapped in a shawl. They go and return in regular order, talking among themselves, soft and low. The women are short and rotund. The men are of
medium height and build, with black hair and eyes. Their complextions are lighter, and their hair of finer texture, than is common among red men. The Moquis are affable in manner, peaceable in disposition, industrious in habits. The men are very much attached to their wives; generally have but one. Polygamy is allowed, but not often practised. Work is divided: men till the fields, weave blankets, and perform the severe tasks; women pack water, grind corn, and attend to domestic affairs. All seem to live happily together. In summer the crops receive attention. Weaving is the principal occupation in winter. The great requisites, wood and water, are scarce. Every stick of wood is carried, on the backs of men and donkeys, from 6 to 10 miles. The town is built on coal-beds, lying but a few feet below the surface, and cropping out in many places. Lieut. Ives, who visited the place some years ago, called the attention of the people to this cheaper fuel, and showed them how to use it. No attention was paid to the stranger's suggestion, as it was considered bad medicine. It is only by the greatest industry life can be supported in such a desert, and it seems a pity that the tribe fails to use all the stores offered.

The Moquis mode of agriculture is original and unique. The plain below the town is a vast, sandy plateau. The Indian lays out thereon his little patch of ground, dividing it from his neighbor's by paths and ridges. Here he sows seeds and plants peach trees. We asked where the first peach-trees came from, and were told that their fathers brought the seed from the West—probably California. The ground is cultivated with heavy hoes. These were formerly made by the natives from wood, but now are obtained from the Mexican settlements. Planting begins in March. Vegetables are gathered as they ripen through the year. Melons, beans, and onions thrive well. Peaches are of excellent flavor and quality. Corn is stunted; stalks are dwindling and dry. The ears shoot out of the ground, the stem connecting them with the main trunk being below the surface. In October, the corn ripens, and is husked from the stalk. Four varieties are raised, each of a different color. The industry and skill of these untaught tillers of the soil become more apparent when one reflects upon the obstacles to be overcome. Upon these dry, sandy plateaus, but little moisture falls. Occasionally a shower that has escaped the mountains wets the parched ground, but not often. The supply of water in the springs is only sufficient for drinking and domestic uses. White men have not yet succeeded in raising crops on such land without irrigation.

*Father Kino brought peach stones to the Pimas, and both Hopis and Navajos probably obtained seeds from the Pimas.*
The Moquis have another important resource, in large flocks of coarse-wooled sheep. These feed on the plains during the day, living on the dry, but nutritious, bunch-grass—the favorite food of the buffalo. The herds are in charge of boys, who defend their wooly property with skill and pluck. Being on the boundaries of the Navajo and Apache range, raids from those marauders were frequent. Not long since, a mounted Navajo made a descent on a flock, thinking to make an easy capture, as there was but one boy watching. The little Indian stood his ground, letting fly an arrow through the wrist of the brave, and showing a disposition to shoot at a more vital point. The disabled Navajo turned and fled. At night, the sheep are driven up to stone corrals under the walls of the cities.

In wandering about the town, I was treated with civility. One Moquis invited me to dine. With squaw and papooses, we sat down to an excellent meal of melon, peke, and soup. It was evening, and darkness and the chill night-air were gathering, rendering the light and warmth of the fire-place quite cheerful. We were seated upon blankets and skins of animals spread upon the floor. There is no useless furniture in a Moquis dwelling. Earthen dishes were placed upon the bare floor, from which each one helped him or herself. The soup is made from vegetables of many kinds, boiled with pieces of mutton. The Indians dip 3 fingers of the right hand in the bowl, and manage to convey liquid and solid food with great rapidity to their mouths. One bowl serves for several, and generally for an entire family. Peke is curiously made. The four kinds of corn—yellow, red, white, and blue—are kept carefully separated, and finely ground. The flour is made in a thin batter with water, and baked on a long, smooth stone slab, raised from the floor, and heated very hot by a fire beneath. The squaw takes a handful of the gruel, and, by a dexterous movement, throws it smoothly over the stone, which has been previously well greased. The thin material is done to a crisp in a moment and laid on a plate. These thin leaves, of different tints, are kept and sewed in bundles. This is pepe [sic]. Water being scarce, I went to camp and brought back a canteen full with coffee and sugar. The Moquis thought the cup of coffee, soon prepared, was "wano"—good—and drank, and smacked his lips, and drank again.

About 9:00 o'clock Hamblin appeared. As we walked through the dark and deserted streets, we heard some one singing. Creeping noiselessly up a ladder, and peering through a doorway, saw a woman grinding corn and chanting a sort of song. When she paused, the song was answered from the room, in a low and musical voice. The lover on the house-top was serenading the maiden below. Being of a practical turn of mind, the lady worked steadily as she sang—the firelight now lighting up, and
the darkness again obscuring, her dusky face. Hearing a slight noise, made by our nearer approach, she suddenly stopped—sitting erect, motionless, and watchful. The singer on the roof as quickly ceased his serenade, and quietly withdrew.

The word Moquis means woman, cowardly—a term of reproach given by the surrounding tribes. The people call themselves the Shinemos—the Wise. Let us speak of them hereafter by their better name, for they are worthy of it. The children are nude until 8 or 10 years old. Women wear plain, blue blankets, carried on the right shoulder and under the left, fastened about the waist with a sash. Their mocassins and leggings are always white. The men are dressed in shirts of white cotton cloth; short breeches of the same material, slit at the knees, to show colored leggings. Moccasins are brightly dyed. Over all is thrown a square blanket of as fanciful coloring and fashion as the wearer can afford, or his taste suggest. When of marriageable age, the women dress their hair—hitherto worn loose—in huge spirals, in close imitation of ram’s horns. The singular shape is preserved by some contrivance unknown to me. Some are very long, measuring from 18 to 20 inches from tip to tip. The married woman takes down these huge coils, and trains 2 curls instead, one on either side the neck, that are tied at the ends with colored strings. The hair is very long and thick. It is combed, well brushed, and washed with extract of the oose plant, which gives it a glossy, wavy appearance. The Aztec women, unlike those of most tribes, are chaste. The rare exceptions have their heads shaved, a sign of shame, and remain in disgrace until it grows out again. The men cut their hair square from the forehead; it hangs loose down the shoulders, and is tied at the back, in an old-fashioned knot, with colored yarn.

An Indian came in with the report that our horses had got in the fields and destroyed vast quantities of corn. A large bill of damages was presented, which we refused to pay. The horses were subsequently found quietly feeding on bunch-grass, deserted by their keepers. Packed up, and, amid a curious crowd of the citizens of Oryba, we descended the stone steps leading to the valley, and took the trail for another town, some 15 miles away. There are 7 Shinemos cities in all in this part of Arizona. They are all built on high rocks arising abruptly from the plain—the first, Oryba, upon an isolated butte; the 3 next in a cluster upon another mesa; the 3 next upon still another eminence. Having heard of our arrival, the people from far and near came in scattered groups to see the strangers. All were driving donkeys laden with native wares and manufactures, which they desired to sell or exchange. We told them to meet us at Wallpy [Walpi]. Petty jealousies exist between the towns.
The Indians declared they would not go to Wallpy, nor would they trade with any one who first visited so degenerate a place. One company of 5 men, mounted on horses, pursued us some distance, jabbering and gesticulating. Disgusted, finally, at our repeated refusals to unpack there and then, they rode away to their own city. At last we came in sight of the mesa upon which the towns of Moquis [Sichomovi] Wallpy, and Tarwa [Hano] stand. When 2 miles distant, we pass the corn-fields. Rounding a point of rocks, we find ourselves in peach-orchards, and note a large reservoir filled with water. Cows were being driven up to shelter for the night. A broad, winding, gently-rising road, cut in the rock, leads to the level of the streets. Narrow spaces, a few rods wide, divide the towns. We halted at the central one, Wallpy. A son of Mr. Crothers, the Government Agent for this tribe, lives here. The only other white man is Wallace, the Spanish interpreter; saw the Chief—Chena—who procured us a room. Hired 2 herders for the horses, and unpacked our effects.

The room was soon crowded with Indians, talking, peering about, and greeting Hamblin, whom they knew. Some remembered Major Powell. One, who could speak a few words of English, told me about his party. He scratched his head so persistently, someone asked if he "had a bite." He knowingly replied, "Oh, yes, him plenty bite!" We begged the privilege of buying wood, and succeeded in purchasing 3 small sticks, which served for supper. Wallace informed us that giving or selling ammunition to the Shinemos was not allowed, as they, in turn, traded it to the Apaches. This seemed like a ruse to prevent new-comers from obtaining Indian goods, as W. was probably in the interest of some trader at Fort Defiance. Being a Government expedition in quest of Aztec wares, implements, and manufactures, we proposed going ahead. When the time arrived to shut up shop, we invited our numerous guests to depart. Words did not suffice, and force was used. One obstinate fellow showed fight, and got soundly thrashed. This created some disturbance, but an appeal to the Chief quelled the uprising. Trading next day was lively; room thronged as usual. The aboriginal methods of cleanliness and ventilation are not yet perfected. When clustering thickly in a small house, "their offense is rank; it smells to Heaven." A Paiute appeared, who has something of a tale. He was stolen when a child by the Navajos, and traded to the Shinemos. He has lived and married among the latter people. Hamblin knew his family, living on the Pahria, and gave him an account of them. On being asked if he did not want to return to his former home, the Ute shook

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5See footnote 160 to Clem's journal.
his head negatively. One Indian offered to trade, who claimed to have traveled extensively, and spoke 5 or 6 languages. Hamblin exchanged beads, indigo, knives, mirrors, &c., for blankets, clothing, pottery and peltry. Among our stores was a quantity of raw cotton, bought from John D. Lee, of Mountain Meadow Massacre fame. This sold readily, but some ornamental buttons were most eagerly taken. The braves fixed them in their ears, and were delighted with the effect. The excitement grew as trading progressed. Indians were hurrying through the streets, laden with every conceivable "trap" that could be disposed of. The men alone appeared, and transacted all the business. The barter on the part of the United States was rather sharp. We got up a corner on beads, and readily obtained a bear-skin for a 5-cent bunch of the shining glass. White, black, and blue beads were preferred. These colors are interwoven in their blankets. Some 40 pieces of pottery, and many skins of black and cinnamon bear, wild-cat, deer, &c., were procured that day.

The western town in this trio is called Moquis City [Sichomovi], because its inhabitants never fight. Exasperated at last by Navajo raids among their fields and flocks, the people resolved upon revenge. A treaty of peace was proposed, and guests invited to a feast in commemoration of the event. Thirty-five unsuspecting and unarmed Navajos accepted, and were admitted to the town, surrounded, over-powered, and thrown from the edge of the cliff upon the rocks below. Moquis City is built upon a peninsular cliff jutting out from the main mesa. Upon the narrow rock, or isthmus, the luckless Navajos were crowded, and were unable to defend themselves or escape. We saw their bleaching bones and shreds of blankets. This event took place in 1866.

Taaw, or the city of the strangers, is upon the eastern wall. During the Spanish conquest, begun by Cortez, its citizens lived upon the Rio Grande. As one Aztec town after another fell before the mailed and mounted warriors of the Cross, these people saw that they also must yield, and gladly accepted an invitation to build and dwell among the Shinemos of the desert. Although of the same race, the strangers differ somewhat in customs and habits from those of the original six cities. The principal manufacturers of this nation are weaving and pottery. The wool is cut from the sheep with knives. Every thread is drawn out, by twisting and spinning, in the fingers of the men. It is dyed with paint collected from the rocks, juices of plants, and indigo obtained from the whites. Colors are permanent and bright. They are now obtaining some knowledge of aniline dyes. The yarn, wound on reels, is woven into cloth, blankets, and wearing apparel of many patterns. The looms are similar in operation to those of modern carpet-weavers, but are of much
simpler construction, being made of 3 sticks. The blankets are warm, water-proof, and exceedingly durable; are always finished in the centre. Best blankets of Moquis-make sell from $25 to $50 in coin in the settlements. Cotton is grown to some extent. Early frosts generally nip the sensitive plant, injuring the fibre. White cloth, however, is made from this material, that wears well. Strings and sashes are woven in small and simple handlooms.

Pottery is manufactured by the women only. It is made from common clay, moulded by hand, and burned in the fire. Jars, jugs, dishes, cups, spoons, and every variety of kitchen-utensils and table-wares, are skillfully fashioned, and often handsomely colored. Much of this ware breaks in burning. Acres of fragments lie scattered over the country occupied by this tribe.

The Aztecs are worshipers of the Sun, believing that it is the home of the Great Spirit. Everything that is mysterious or capable of doing them good or evil, is deified. The gods are represented by wooden images, placed in all the houses in each of the cities. The lesser deities take rank in proportion to the power they exert. Every morning, before dawn, the people can be seen sitting upon the house-tops, with faces turned to the East. When the sun rises, they bow reverently toward it, and then the business of the day begins. Dancing is their creed and ritual. In all their prayers, in all their fasts and feasts, joys and sorrows, dancing goes on, inducing and keeping up the mental excitement.

Their places of worship, or kivas, are large rooms hollowed out in the rock. Descending by a ladder, we find ourselves in a cistern-shaped apartment. Around the walls are benches, whereon spectators sit. The narrow opening through which we have entered gives little light. One man keeps a few sticks burning in a hollow in the ceiling. Another beats a large drum, made by cutting out the centre of a huge pine block, and covering the ends with sheepskin, tightly stretched. A row of men, nearly naked, dance for hours together, shaking gourds with peas inside, and chanting monotonously. The old men, seated on the ground, tell of the former greatness and prosperity of the people, and tears flow freely as their present condition is held up in contrast.

These are the living remnants of a nation that will pass soon into history. Theirs is the earliest civilization known upon the Continent of North America. Their traditions run back for centuries before the time of Columbus. In the year 1532 [1540], the Spaniards found these same cities very ancient. As herein indicated, they possess a knowledge of the peaceful arts that fills the traveler with astonishment. They have a written history

*None of the Indian tribes had a written language. Possibly this statement refers to some pictographs painted on hides.
running back from current events through countless years. Tulta
dined with us. We treated him with all the kindness and con­
sideration in our power. The Chief did not fail to observe it.
Standing erect, as he was about leaving, he acknowledged our
courtesy in smooth and stately Spanish. He told us that our
coming was noted upon the cañon-walls; that his God would
repay the debt he could not, for he would make an account of it.
When this Chief dies, another dusky historian will take up, and
probably complete, the story of his race. The Shinemos see
their future fate, now near at hand. From small-pox; from an
unequal contest with Arizona's genius of desolation; from the
incursion of savage Apaches; from cunning Navajos, relent­
less Commanches, and white man's greed and tyranny—the an­
cient nation—the Wise People—are dwindling fast. We had
adventures among them; learned much that is curious and inter­
esting, that cannot here be told.

In closing this correspondence, it may not be inadmissable here
to acknowledge the vigilance of the proof-readers, and the
liberality of the publishers of the Chicago Tribune. Many
travelers have written about the deserted houses and crumbling
ruins that are widely scattered in the cañons, among the valleys,
and on the plateaus of the West. Two Government officials
have visited the inhabited Aztec cities of Arizona. Exclusive of
their reports, it is believed that no more detailed account of the
living people and their history have yet appeared than has been
given in these columns.

Clement Powell.
Biographical sketches of most of the members of the Powell expeditions of 1869 and 1871-72 have been printed in two volumes of the Utah Historical Quarterly in connection with the publication of their original journals. To round out this record of the Powell explorations, biographical sketches are here presented of six men associated with the second and greatest of the Colorado River exploring expeditions, E. O. Beaman, James Fennemore, John K. Hillers, Frederick S. Dellenbaugh, William D. Johnson, and Andrew Hattan.

E. O. Beaman. Very little is known of E. O. Beaman, the first photographer of the Powell Colorado River Survey. He was a professional photographer in New York immediately after the Civil War and had done some photographing in western New York State, Ohio and Illinois before 1870.

When Major Powell purchased photographic equipment from the E. and H. T. Anthony Company of New York City, the outstanding commercial supply house of the period, he inquired for the services of a competent photographer. Beaman was recommended and subsequently hired.

Major Powell expected to derive both profit and publicity from the sale of stereographs which were then exceedingly popular. The income from this source was to be shared by Beaman, Thompson, and Major Powell. Altogether, Beaman made approximately 350 negatives while in the service of the Expedition, and some of these are well-known as illustrations in the various books by Frederick S. Dellenbaugh.

Beaman with an eye to profit wanted to go “on his own” and before many months had passed decided to resign from the party. This was a considerable misfortune. Clem Powell, who had been photographic assistant, was not an apt pupil, though in justice to him, it must be acknowledged that Beaman took no special pains to instruct him. When the winter base camp was established in Kanab in November, 1871, Beaman moved into a room in the Fort rather than remain with his river companions. The Major finally released him on January 31, 1872, after purchasing outright all negatives Beaman had made. The parting was not entirely friendly. Thompson (who was not inclined to hasty judgment or ill-temper) accused him of “fixing” the solutions so that a successor could not develop negatives or prints.
The private venture got under way promptly. Beaman skirted the rim of Grand Canyon, visited the Hopi villages of Arizona, and in late summer reached Denver. Later the set (a duplicate set?) of negatives was sold to the E. and H. T. Anthony Company and subsequently prints were published by that organization. I have obtained several Beaman stereographs of the "Moqui Towns" and "The Grand Canyon." Beaman wrote an account of his experiences which was published in *Appleton's Journal*, as noted on p. 18.

E. O. Beaman was a veteran of the Civil War but a search for his name among the records of the Adjutant Generals of New York and Illinois has failed to yield a clue as to his service or place of enlistment.

James Fennemore (1849-1941), the last survivor of the Powell Colorado River Expedition, died at Phoenix, Arizona, January 25, 1941, at the age of 91. He was born in London, England, on September 7, 1849.

During the early fall of 1871, Major Powell came to Salt Lake City with a box of 250 stereoscopic (double exposure) negatives made by E. O. Beaman. He wanted prints struck from these negatives to exhibit in Washington when he appealed for additional appropriations for his explorations. Charles R. Savage, proprietor of the celebrated gallery in Salt Lake, was chosen to do the work; however, James Fennemore, an assistant, made the prints and thus was introduced to the Major.

Fennemore's own account of his association with Powell is here printed by courtesy of his granddaughter, Mrs. M. W. Krause of Phoenix, Arizona.

Phoenix, Arizona, April 4th, 1940.

My son, Harry M. Fennemore, informed me there is to be a meeting and broadcast in the bed of the Grand Canyon on May 17th, and being the last survivor in the early explorations of the Grand Canyon of the Colorado and Arizona State by John W. Powell and party, has asked me to revert my mind back about 70 years to rescue a few side-lights of my experiences and impressions of my part in opening up the wonders of that Canyon and country that is proving of so much interest to this and other parts of this country. It is impossible in this letter to go into the details of the almost hair-raising dangers

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1 No general index of Union soldiers exists. The Department of the Army archives includes twenty-six indexes. Beaman's name is not among the New York and Illinois lists.

2 Notes on Fennemore, Beaman, and Hillers are published in the Daughters of the Utah Pioneers, "The Story of an Old Album," *Heart Throbs of the West*, 1948, vol. 9, pp. 101-152.
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of some of those rapids, in trying to run them with the boats—or making portages along the shores, at times up to our necks in water, carrying the provisions and bedding, and letting the boats through with ropes. Once in the canyon we felt almost buried from the outside world.

My entrance into the Powell party early in 1872 was brought about primarily, I think, by a visit by Major Powell to our photographic studio in the fall of 1871, while en route to Washington from his winter quarters in Kanab, in Southern Utah. The Major desired a number of prints from negatives he had, which had been made by E. O. Beaman, the party's photographer. In examining the negatives I was astonished at the scenes, but from a photographic standpoint they were a mixed lot—some almost transparencies which made bad prints for detail on paper and necessitated much care and doctoring, and slow printing. The Major remained one week to secure a decent set of prints, spending much time and talk at the Gallery.

Early in February of 1872 the Major came from Washington to Salt Lake City on his way to camp and offered me the position E. O. Beaman held, intending to discharge him. I felt sorry for the man out so far from New York; my position was a good one and I hesitated, but the Major was firm as to his intentions. There was some lure in the offer and I finally accepted it, the Major agreeing to any arrangements I suggested. Early in March I arrived at Kanab and we left there after fitting out with 8 packs and 10 horsemen. Our objective was Mount Trumble [Trumbull] and the Unicarrat [Unicket] Mountains (South of Kanab), arriving after two days in a blinding snowstorm. Our route paralleled the Grand Canyon—the intention was to run topographical lines for mapping and get photographic views of the Grand Canyon from the rim. One week was spent in that section, 2 days of snow giving us much discomfort. At the first opportunity Jack Hillers (my assistant) was detailed to the Rim. We found an immense extinct crater that had run lava for miles over one section—12 to 15 feet high; other portions had fallen down the walls of the Canyon. After clambering down about 2500 feet over the broken lava, we found a ledge to set the camera and tent and were fortunate to obtain some fine views, taking in a perspective in clear air of 70 to 100 miles with both sides of the Canyon and the tributaries, which the Major prized very much. Three weeks were

*Beaman had been discharged already, on January 31, 1872.*
spent in this section and return to Kanab, with the minor trips to make views and trails.

This brought us to May. Fitting out again to make an overland portage to the mouth of the Dirty Devil stream (Frémont Creek), the Major again left for Washington, taking with him more views I printed and trying to get more appropriations. Our route lay this time in the eastern section in the San Juan country,* of immense expanse and greatly broken up with ancient canyons, but full of wonderful bridges, haystacks, water bottles [pockets], caves, and monuments hundreds of feet high composed of soft strata sandstone. Our route lay over and through the Henry Mountains, but we were blocked by these deep canyons, and after wandering for 3 days, using up our provisions, we had to retrace and go north, skirting the famous Wasatch Range; in this section we came to some beautiful mountain lakes and well supplied with trout, but could not stop to fish; here some fine views were made. Heading the canyons we made some progress to our goal, hundreds of miles in an unexplored country—so rugged yet beautiful in its wonders—but almost lost. Starting out one morning and rounding a curve we came upon some Indians camped. They surprised us and we surprised them; there were about 20 bucks and wives—an ugly looking lot. Seeing us, the bucks decamped for the cedars. We halted and interviewed an old Indian who showed friendliness, and soon we were surrounded by the entire camp and we decided to return to our camp and remain, hoping to get a guide, as our food was getting low; but after their visiting us and our almost bribing them with presents, at sundown they left and we had not gained a point in help. All of this looked suspicious and after guarding our stock and doing sentry duty we broke camp early. Nothing had occurred, but we found Mr. Indian and family had cleared out in the night. In our future travels we came upon hundreds of cattle heads and feet, showing that this gang had been stealing from the Utah ranges and driving them into these fastnesses, safe from penetration. Our worry was not over for days, as we could so easily have been ambushed, but nothing more was seen of Messrs. Indians. The expeditions of the previous year had cached a boat at the mouth of the Dirty Devil (Frémont Creek) and we finally arrived at our destination at the mouth of this stream where it enters

*The San Juan country proper lies east and south of the Colorado. Fennimore means the broken country west and north of the Colorado.
into the Colorado and where we found the cached boat, and spent 2 days caulking and loading it. There were 10 in our party, but only 4 of us made the trip down the river to the mouth of the Paria. These were Fred Dellenbaugh, a young engineer [artist] who has written several books of his Colorado River experiences, Jack Hillers, my assistant, Andy [William] Johnson, a local boatman [school teacher], and myself. The balance of the party returned to Kanab. Space will not permit me to give a description of the wonders of these canyons and the thrills of the rapids. Hordes of big mosquitoes at night added to our discomfort. Three weeks were devoted to mapping, picture taking, rapids and short rations, finally arriving at the mouth of the Paria the latter part of August [early part of July].

We spent one month at the mouth of the Paria awaiting the arrival of the Major who arrived in September [August]. Thereafter, half of the party left overland for the north and the balance went down the river as far as the Kanab Wash. I was not in the best of health following my experiences coming down the stream and was compelled to return to Salt Lake City, leaving the job of photographing the rest of the river to Jack Hillers, my assistant.

When Beaman resigned from the Powell outfit and Clem Powell failed to master the art of photography, the Major went to Savage and asked for Fennemore’s services. Fennemore joined the party at Kanab on March 19, 1872, but did not remain long, resigning on July 19 because of ill health and disinterest in mountain climbing. He made approximately seventy negatives during his brief period of work with Major Powell. Fennemore’s most important service to the Powell expedition was his patient instruction of Jack Hillers, who had been assigned to assist him. James Fennemore later opened his own establishment and practiced photography for many years. Many of his pictures are well-known, including several of Brigham Young and a famous photograph of John D. Lee seated on his coffin just before execution.

John K. Hillers (1843-1925) was born in Hanover, Germany, in 1843 and came to America in 1852. At the outbreak of the Civil War, Hillers enlisted in the New York Naval Brigade which later was transferred as a body to the U. S. Army. Hillers took part in the engagements at Petersburg and Cold Harbor. He remained in the Army, serving in western garrisons until 1870, when he resigned to accompany an ailing brother to San Francisco. Returning eastward, he stopped at Salt Lake City, and obtained employment as a teamster.
When Major Powell needed an additional member for the Colorado River surveying party, he hired Hillers in May, 1871, and thus began a long and intimate association. In later years no member of the river parties except A. H. Thompson shared the Major's confidence more than Jack.

Hillers began his work with the Second Colorado River Expedition as a boatman in the "Emma Dean," the Major's lead boat, sharing honors with S. V. Jones and Fred Dellenbaugh. When difficulties with photographers increased—E. O. Beaman resigned, James Fennemore's health gave out, and Clem Powell failed to become proficient in the art—Hillers gradually took over the photograph department.

At that time neither the dry-plate nor film had been perfected and all the photographs taken on the Powell expeditions during the period 1871-1874 were made by the silver-collodion wet-plate process and developed in the field. "Instantaneous" exposures were purely experimental. Hillers mastered the techniques rapidly and made more than 3000 negatives of the Colorado River Region between 1872 and 1878. Some of these rank with the very best done by such well-known frontier photographers as William H. Jackson, Charles R. Savage, and A. A. Hart.

An accident in the perilous waters of Grand Canyon nearly took the Major's life when he was thrown clear of the "Dean," and disappeared from view. In an instant Hillers dove in and pulled Powell to safety. Whether this act of courage was a consideration in the bond of friendship between the Major and Jack, will, of course, never be known. At any rate, Hillers remained with the Powell surveys until 1879, when the consolidated United States Geological Survey was organized. A few years later, when Major Powell became Director, Hillers was placed in charge of the photographic laboratory and in this post remained in the employ of the Geological Survey until he was retired in 1900.

Hillers made more than 20,000 negatives for the Geological Survey and Bureau of American Ethnology. A large number are still preserved in the collections of these bureaus, and in the National Archives.

The importance of Hillers' photographic work cannot be over-estimated. Many of his pictures of Paiute, Ute, and Shoshoni Indians were the first taken of these peoples. Although some of the pictures are obviously posed, they record the natives at a time when they still retained their unspoiled customs. His photographs of Zion Canyon were the first taken in that region.  

\(^{a}\)Cf. J. H. Steward, "Notes on Hillers' Photographs of the Paiute and Ute Indians taken on the Powell Exploration of 1873," (31 plates). Smithsonian Miscellaneous Collection, No. 18 (publication No. 3543), 1939, p. 98. Also
FREDERICK SAMUEL DELLENBAUGH
As he appeared in 1872 while with the Second Powell Expedition
Courtesy, New York Public Library
PHOTOGRAPHERS AND OTHER MEMBERS OF EXPEDITION

The earlier photographs were double exposures taken with the stereoscopic camera. The negatives were used to print the well-known stereographs which were popular from 1860-1910. Many thousands of Hillers’ stereographs were sold, wholesale as well as retail, through the Jarvis Company of Washington, D. C. The income from the sales was divided among Major Powell, Jack Hillers, and A. H. Thompson.

Some of Jack Hillers’ later professional work was ingenious. He prepared a large number of glass transparencies for the Columbian Exposition at Chicago in 1893. The biggest of these, four feet by seven feet, showed a map of the United States and the location of oil fields and refineries. Hillers was particularly interested in the coloring of transparencies. Following his retirement from the Geological Survey, he experimented with non-fading water colors, protective coatings for colored transparencies, and collodion mixtures. Although he did not apply for patents on any of his experiments, he is widely credited with the invention of a method for coloring transparencies so they will not fade. Hillers received many medals and certificates for his work, including awards from the French, Russian, and German governments.

The Ute Indians gave to Hillers a name which, translated, means “Myself-in-the-water”—an allusion to the photograph in which the image appears to be a reflection.

Jack Hillers was a member of Kit Carson Post No. 2, Grand Army of the Republic and the Geological Society of Washington. In 1880 he married Mrs. Elizabeth Schievenbeck, nee Kneip. A son, John K. Hillers, Jr., was born to them in 1888.

Jack Hillers died of pneumonia on November 14, 1925, and was buried in Arlington National Cemetery.

Frederick Samuel Dellenbaugh (1853-1935), artist to the second Powell Colorado River Expedition, was born on September 13, 1853, at McConnelsville, Ohio. He was the son of Samuel and Elizabeth (Smith) Dellenbaugh. When Major Powell enlisted personnel for his 1871 party, Fred, a distant relative of A. H. Thompson, became artist and assistant topographer. Fred, then a lad of seventeen, was the youngest member of the outfit.

From 1871 to 1873 Dellenbaugh served with the Powell Survey, assisting in the preparation of the first map of the Grand Canyon region. A gifted, though self-taught artist, Dellenbaugh made many sketches (in pencil, oil and water colors) of rock formations, pictographs and other features which could not be recorded by photographic methods. Photographic materials and

see Robert Taft, Photography and the American Scene, New York, 1938, pp. 288-291, which has a discussion of photographers of the Powell expedition, including a letter about Hillers by Dellenbaugh.
photographers were too uncertain in 1871 to permit a complete dependence upon them. Many of Fred’s paintings were primitive and amateurish, but they gave him a central theme which he pursued enthusiastically in later life.

Following an independent sojourn in Nevada and California during 1874 and 1875, Dellenbaugh made personal expeditions in Utah, Arizona and Colorado. In the winter of 1884-1885 he resided for six months in the Hopi towns of Arizona. During the intervening years Dellenbaugh studied at the Royal Academy of Art at Munich and under Carolus Duran and Julian in Paris.

Returning to America, Dellenbaugh devoted himself to painting and writing. He became unofficial historian of the Powell expedition, publishing *The Romance of the Colorado River* (1902) and *A Canyon Voyage* (1908), a delightful and exciting account of the 1871-72 exploration (which, though written more than thirty years after the adventure, recaptures the breathless excitement of the moment). A slightly revised edition was issued in 1926. Dellenbaugh’s other works include: *North Americans of Yesterday* (1900), *Breaking the Wilderness* (1905), *Frémont and ’49* (1914), and *Life of Gen. George Armstrong Custer* (1917). He edited a facsimile reprint of the *Seven Log Books of William Scoresby*. The paintings of Dellenbaugh include remarkable Indian scenes, the best collection of which is preserved in the Museum of the American Indian in New York City.

Fred Dellenbaugh painted, wrote, lectured, and traveled. In 1899 he accompanied the Harriman expedition to Alaska and Siberia, and to Spitzbergen and Norway in 1906. Other trips took him to South America and the West Indies. The native peoples and the natural features of the countries caught his fancy. Dellenbaugh participated in many organizations: The Explorers Club (of which he was a founder), American Association for the Advancement of Science (fellow), Authors Club, American Anthropological Society, John Burroughs Association, American Geographical Society, and many others.

In 1885 Mr. Dellenbaugh married Harriet Otis, an actress who had starred in Clyde Fitch’s plays and under David Belasco’s management. They had one son, Frederick S. Dellenbaugh, Jr. Fred Dellenbaugh died of pneumonia on January 29, 1935, at the age of 81 in New York City, where he made his home. At the time of his death, with characteristic enthusiasm and youthfulness, Fred was interested in a motion picture dealing with the early history of the Mormons and Indians in Utah.

The principal collection of Fred S. Dellenbaugh’s papers including his diary, the preliminary account of the Second Colorado River Expedition (which he compiled in 1881-1882), and the various journals he had obtained from other members of the exploring party, are in the New York Public Library. A. H.
Thompson directed in his will, that his Colorado River journals be given to Fred. A second collection of Dellenbaugh’s notes has recently been acquired by the Desert Museum, at Tucson, Arizona.

Dellenbaugh was the last survivor of the Powell men who actually made the canyon voyages, and it is appropriate that he should preface this volume by the song reproduced as the frontispiece. This song was sent Mr. and Mrs. Ray T. Stites of Salt Lake City as a Christmas remembrance in 1933. It was composed in 1872, and Dellenbaugh found it still being sung when he revisited southern Utah in 1929. It was written, he says, “in the tent in Kanab where we were working in the days on the first map. The evenings were rather dull—this song was therefore born without any thought of its being more than a passing amusement.” The music was the tune of a “Rebel” song, “Then Farewell Forever to the Star Spangled Banner, No longer may it wave o’er the land of the free.” In a note Dellenbaugh added that the “blind-box” was the photographic dark box, the “theodolite” Hattan’s name for the theodolite. Steward was an “exhorter” because he swore like a trooper; Clem Powell had large feet; Jack Hillers was a fine singer, and the “Eagles” the Irish New York City volunteer fire company he had trained with as a boy. “Little Breeches” was explained as applying to Frank Richardson because he had corduroy trousers several sizes too large for him. The verses were printed by Mrs. L. D. Whittemore, a niece of Major Powell living in Topeka, Kansas, and they are here reproduced by courtesy of Mrs. Whittemore and Mrs. Ray T. Stites.

William Derby Johnson, Junior (1850-1923), like James Fennemore, was a Mormon settler who became associated with the Powell Expedition in 1872. A graduate of the Deseret University, he taught school in Kanab during the winter of 1871-72, and was apparently well liked by Francis M. Bishop, who makes frequent mention of Johnson in his journal. His school ended February 29, 1872, and on March 10 he was hired by Thompson as a member of the Powell party at a salary of $45 per month. Joining the party at Pipe Spring, he participated in the varied explorations of the next four months, and was a member of the detachment which brought the “Canonita” down the Colorado from the mouth of the Dirty Devil to Lees Ferry. Dellenbaugh writes in his A Canyon Voyage that Johnson left the Expedition at Lees Ferry on July 14, on the plea that his health would not permit him to go on through the Grand Canyon; accordingly on that day he set out for Kanab in company with John D. Lee. Johnson later became prominently connected with the Mormon colonies in Mexico, and died at Tucson, Pima County,
Arizona, on October 17, 1923. By courtesy of the L. D. S. Church Historian’s Office, an autobiography written by Johnson is here printed in lieu of a summary sketch of his life. 

Colonia Diaz [Mexico], Dec. 11, 1902.

Andrew Jenson

Salt Lake City, U.S.A.

Dear Brother:

Your letter of recent date to hand, asking for a sketch of my life. On account of the many duties I have to perform in the frontier country, I will be able to give you only dates and short explanation.

I was born in Kanesville (Council Bluffs), Pottawattamie County, Iowa, in 1850, May 2. My father’s name was William Derby Johnson, mother, Jane Cadwallader Brown.

1858—Was baptized by A. C. Pyper, at Florence (Winter Quarters), Nebraska.

1860—Came across plains with ox teams, settled in Salt Lake City in 15th Ward, where I passed my boyhood and lived until 1870.

1864—Went down to Missouri River with Church train and drove ox team.

1865—Ordained a deacon by Bishop Cunningham.

1866—Ordained a teacher. In May enlisted as a Volunteer to go help the brethren in Sanpete in the “Black Hawk War” for 90 days under Major Casper. Was in Thistle Valley fight (with Indians). Entered the Deseret University; paid for a life membership, D. O. Calder, Principal; studied bookkeeping.

1867—Keeping boat [books?] for John W. Young in Echo Canyon on Union Pacific Railroad construction; completed course in Bookkeeping—received diploma as an accountant.

1868—Appointed Principal of Commercial Department in University and one of the faculty under Dr. John R. Park, Principal.

1869—Received endowments, in Endowment House and married Lucy A. Salisbury.

*This autobiography was written for Andrew Jenson, late historian of the L.D.S. (Mormon) Church, for use in his L.D.S. Biographical Encyclopedia. In that work the facts concerning Johnson’s life were limited to his record of church service. The date of death there given is erroneous, being that of William Dydamous Johnson, who was born in 1833 at Haddam, Middlesex County, Connecticut. As here printed, abbreviations have been written out, spelling corrected, and punctuation supplied.
1870—Bookkeeping for Zion's Cooperative Mercantile Institution Produce Department, under George Teasdale. In December called by Pres. Brigham Young to go to St. George and start a Commercial School, but advised to go to Wash[ington] 6 miles east of St. George and start school.

1871—Taught school until May, when was called to go to Johnson, Kane County, 13 miles east of Kanab, and help start a new settlement there; on account of Indian troubles was driven to Kanab in October, where I taught school.

1872—Teaching school in Kanab, during winter of 1871 & 1872. In May [March] joined Powell's Exploring Expedition for U.S. as Topographer, and helped map all of the southern Utah and northern Arizona from the mouth of the "Dirty Devil River"; went in a boat down the Colorado River to Lees Ferry, mapping and taking geological sections for Smithsonian Institution.

1873—Teaching school in Kanab; during summer surveyed Kanab and surrounding country, laid out fields, &c.

1874—Joined United Order under John R. Young and Bishop Levi Stewart. Appointed Deputy County Surveyor under John Steele, for Kanab County. On account of sickness, went to Salt Lake in Spring; during winter of 1874 & 75 acted as clerk in Police Court to Justice A. C. Pyper & also local reporter for the Deseret News.

1875—August—Elected County Surveyor for Kane County.

1875—August—Elected Justice of the Peace for Kanab Precinct of Kane County.

1875—Appointed Deputy Mineral Surveyor for Utah. Called in October to go to Canada on a Mission. Pres. Brigham Young changed this and called me to come and take charge of the Deseret Museum during Prof. Barfoot's sickness. In December, elected Engrossing Clerk for Legislature.

1876—In April, went home as per call from Pres. Young to close my business and go to Yale College in Fall, to fit myself to take full charge of the Deseret Museum on account of failing health of Prof. Barfoot. During this year wrote a series of articles on Etamalogy [Entomology?] for the Juvenile Instructor for Pres. [George Q.] Cannon. Ordained a Seventy in the 24th Quorum.

1877—In April Conference of Kanab Stake was ordained a high counsellor by Apostle Erastus Snow. Sustained also as Superintendent of Schools & County Surveyor for Kane County. December 9th—called and set apart as Bishop of Kanab Ward by E. Snow.

1878—Elected to represent Kane & Washington counties in Legislature.
1879—Appointed Bishop's Agent for Kanab Stake.
1880—Elected again to Legislature.
1882—Appointed Delegate to U. S. Congress by Constitutional Convention as one of 7 to present Memorial to Congress that Utah be admitted to the Union. Went to Washington in May.
1883—Elected President of Southern Utah Stock Protective Association. In December went again to Washington as Delegate.
1884—In June set apart as First Counsellor in Kanab Stake Presidency by Apostle John W. Taylor.
1885—Called by Pres. Taylor to go to Mexico, as Judge [Jacob] Boreman was determined to put me in Penitentiary, as I was a polygamist and had been as a Constitutional Delegate to Washington, D. C. March 11—Left Kanab for Mexico. April 21—arrived at camp near where Colonia Diaz now located. In July, called to act as Doctor to Mexicans; set apart for this office by Apostle F. [E.] Snow & George Teasdale. In December called to labor in Custom House and help Saints through the Customs; studied Spanish during this year and mastered language.
1887—Still acting as Custom Agent and Interpreter at Ascension.
1888—Engaged by members of Colonia Diaz to purchase land so we could have grazing for our cattle, as the purchase made by the Church was only 7,000 acres with no living water on it, and our Mexican neighbors were charging us rent for grazing our cattle. Pres. [Wilford W.] Woodruff gave me an open letter asking the brethren in Utah who had money to help me buy land. Bro. John W. Young was the only one who responded.
1889—In January completed purchase of land lying contiguous to Colonia Diaz, for Bro. Young, of 150,000 acres, and the colonists had the privilege of using it for wood or grazing.
1890—With consent of Pres. Woodruff, I engaged to help John W. Young in his railroad scheme for a railroad from Denning [Deming], New Mexico, into Mexico.
1891—Appointed General Manager for Mexican Northern Pacific Railway.
1892—Called by Superintendent Karl G. Maeser, as Superintendent of the Church Schools in the Mexican Mission, set apart by Apostle George Teasdale. Appointed and sustained as Stake Tithing Clerk for Mexican Mission.

1893—Went to Dedication of the Temple in Salt Lake in April. Went to England in July in interest of the Mexican Northern Pacific Railway.

1894—Appointed member of Stake Board of Trade.

1895—Sustained as member of the Stake Board of Education.

W. Derby Johnson

Andrew J. Hattan (1841-1919), cook and boatman for the Second Powell Colorado River Expedition, was an Army acquaintance of Major Powell. He was born on a farm near Decatur, Brown County, Ohio, on October 14, 1841. Hattan enlisted for service in the Union Army at Belle Plain on October 13, 1861, and was assigned to the 4th Illinois Cavalry. His company participated in the engagements at Shiloh, Corinth, Lake Providence, and Vicksburg. After serving the three-year hitch, he was honorably discharged at Natchez, Mississippi, on November 21, 1864.

After the war, Hattan returned to the family farm, interrupting that work during 1871 and 1872 when he accompanied the Powell Colorado River Survey. In later years he engaged in farming and teamstering. He never married.

Hattan was admitted to the Disabled Veterans Home at Danville, Illinois, on May 16, 1905, and he died there on September 25, 1919.
A long search rewarded by a "find," seemingly trifling in itself, may provide a clue, or even the solution to a tantalizing puzzle. The discovery of letters by Andy Hall, the youngster of the 1869 Powell party, culminating a search of nearly six years is indeed such a find.

After Volume XV of the Utah Historical Quarterly had gone to press, Dr. Wallace Stegner, in the course of lively discussions about Powell source materials, called my attention to a copy of a letter by Andrew Hall in the Grand Canyon National Park Museum. Mr. H. C. Bryant, the Superintendent, referred me to the owner of the original, Mrs. Mamie Hall Laughlin, a niece of Andrew Hall. Mrs. Laughlin provided personal data about Hall, graciously consented to the publication of the letter written at the Uinta Reservation, and suggested that another niece, Mrs. M. S. Stetson, might have additional information. Mrs. Stetson had, among a considerable series of Hall letters, two pertaining to the Colorado River Exploration, one written from Green River, the other from Fort Mojave, and willingly granted permission for their publication.

For the first time it is possible to give an authentic sketch of Andrew Hall's parentage and early youth. This information supplements and in some important respects corrects the fragmentary records hitherto available.

Andrew Hall was born in Liddisdale, Roxburghshire, Scotland, in 1848, the son of William and Mary Hall. His father died suddenly, leaving a widow with three children, Ellen, William, and Andrew. Mrs. Hall brought her family to America in 1854 and settled shortly thereafter near Kewanee, Illinois. At the outbreak of the Civil War, William Hall enlisted, but Andrew, known to his friends as "Dare-Devil Dick," was rejected because of his youth. In 1862 or 1863 he joined a wagon train heading West and became a guard and Indian fighter full of wanderlust and daring. He remarked in one letter "many an Indian would be glad to get my scalp as my hair is about 14 inches long." By 1868 he was a typical frontiersman, taking his lot as he found it. A letter dated October 24, 1868, reveals that he was hauling wood for the Union Pacific Railroad in the vicinity of Green River City.
The original letters pay little heed to spelling or paragraphing. Nevertheless, so far as possible, they are here reproduced faithfully. Their simplicity, affection, and impulsiveness would be destroyed by alteration.

In the first letter reproduced here, written from Green River, Hall informs his family of his determination to explore the Colorado River. Andy gives no hint as to the circumstances leading up to his meeting with Powell, but evidently is taken with the Major. The second letter, written at the Uinta Agency, reveals very little but exudes enthusiasm and optimism. The third letter, written from Fort Mojave, is a sober report reassuring his family of safe passage. There is much more in this letter, an expression of indignation over the Risdon story and condemnation of the trio who left the party at Separation Rapids. Here then is the final link in the chain of proof that the separation of the Howland brothers and Dunn was simple desertion—they refused to go farther.

I

[Green River, May, 1869]

Dear Mother;

It is a long time since I wrote you but I want you to know I am still alive and well and hope you are the same.

I can not write you any news at present for I have not time to write to you now.

I am going down the Colorado River to explore that river in boats with Major Powell, the professor of the Normal college in Illinois.

You need not expect to hear from me for some time ten or twelve months at least. You can write to me at Collville, Arizona give my love to all.

Yours till death
Andrew Hall

II

[Uinta Reservation, July 1, 1869]

Dear Brother.

It is with the greatest off pleasure that I now set down to write you a few lines to let you know that I am all right yet. I wrote a letter to mother before I started with Major Powell to explore the Colorado. We had the greatest
ride that ever was got up in the countenance the wals of the canone where the river runs through was 15 hundred feet in som places. i think that we ar now through the worst off the water now. I write from the Unto reservation now but I will tell you more about it when i come home. The major is from near Blumington, Ill. I suppose you never herd off him and he is a Bully fellow you bett. if you can gett the normal paper you can have the whole off the expedition. I have not time to write any more at present give my love to all and kiss Helen's baby fore me.

Be kind to our mother
No more at present

Yours affectionate
Brother Andrew Hall.

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III

[September, 1869]

Fort Mojava Friday the 10th

Dear Brother

It is with the greatest of pleasure that I once more sit down to write to you to let you know that I am still alive and well after coming through hard and perilous voyage. I turned up all rite at last. We have been reported all drowned by some lying scoundrel by the name of John Risdon from Illinois and he reported he was the last survivor of the party. There was no such man ever was with the party Who ever he is he is a liar and a scoundrel and it wont do for him to let any of us see him.

We came through in from Grene river City in one hundred and eleven days to Vagus Wash where the exploration finished. The Major left us at a Mormon camp 25 miles above the wash and his brother Walter went with him. Out of the 10 men that started from Grene river only six came through. Just before we came out of the canyon three of the men left us on the head of rapids. They were afraid to run it so they left us in a bad place. We were then short of hands and we had to abandon the Major's boat. The name of it was the "Emma Deene." Then we still had one left for each three men. The first boat that run the rapid was the "Sister" as we called her. It is the boat that Bill Rhoads and I started from Greene river with.

The Major was in the boat with us. We ran the rapid all right and gave a loud cheer. Next came "The Maid of the Can-
"yon" named by J. Y. Bradley and the Major's brother. Now I will give you the names of all the boats. "The No Name" wrecked on Green river, the "Emma Deene" abandoned in the canyon, the "Maid of the Canyon" and "Kitty Clyde's Sister" that was given to Bill Rhoads and me. The other was given to Bradley and Sumnar.

We are now at Fort Majova. We start today for Fort Yuma, John Sumnar and I. The other two boys think of going to Los Angeles by land. Write to me at Fort Yuma, California. Must close. Give my best respects to all. Write soon.

Yours till death

Andrew Hall
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