

# Balduin Möllhausen's Grand Canyon



*An English Translation from*  
Chapters 21-25 of  
‘Reisen in die Felsengebirge Nord-Amerikas  
bis zum Hoch-Plateau von Neu-Mexico’ (1861)

*edited by Earle E. Spamer*

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**COVER ILLUSTRATION.** “Near Head of Diamond Creek,” lithograph by J. J. Young after original artwork by Balduin Möllhausen (“General Report Plate I” [*sic*, should be “Geology Plate III”], *accompanying* J. S. Newberry, “Geological Report”, *in* J. C. Ives, *Report Upon the Colorado River of the West, Explored in 1857 and 1858* [Washington, U.S. 36th Congress, 1st Session, House Executive Document 90; and concurrently as an unnumbered Senate Document]), Part III, facing p. 54 [Part III is separately paginated]).

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Balduin Möllhausen

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Grand Canyon

An English Translation from Chapters 21–25 of  
*Travels into the Rocky Mountains of North America  
to the High Plateau of New Mexico*

[*Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico*]

(1861)

with a transcription of coinciding parts from Chapters 6–8 of the “General Report” of  
Lt. Joseph C. Ives’ *Report Upon the Colorado River of the West* (1861)

*edited by Earle E. Spamer*



## BALDUIN MÖLLHAUSEN'S GRAND CANYON

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This is an account of the beginning of the land-exploration part of the Colorado River expedition commanded by Lt. Joseph C. Ives, U.S. Army Corps of Topographical Engineers, in March–April 1858

### **Möllhausen, Heinrich Balduin (1825–1905)**

Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition (Hermann Costenoble, Leipzig, 1861)

### **Ives, Joseph Christmas (1829–1868)**

Report upon the Colorado River of the West, explored in 1857 and 1858 (Government Printing Office, Washington, 1861)

### **Spamer, Earle Edward (1952– ) (editor)**

Balduin Möllhausen's Grand Canyon : an English translation from Chapters 21–25 of *Travels into the Rocky Mountains of North America to the High Plateau of New Mexico* [Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico] (1861) : with a transcription of coinciding parts from Chapters 6–8 of the "General Report" of Lt. Joseph C. Ives' *Report Upon the Colorado River of the West* (1861)

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**FRONTISPIECE.** "Balduin Möllhausen als Trapper" (*transl.* 'Balduin Möllhausen as a trapper'). Engraving from the article, "Die nordamerikanischen Trapper" by "Ein Freitrapper" (*transl.* 'The North American trapper' by 'A Free Trapper'), *Die Gartenlaub* (Leipzig, Jahrgang 1862, No. 29, p. 453). Engraved by X.A. v. W.A. Richter, after a photographic portrait. *Die Gartenlaub* editor's credit: "Der Güttte eines Freundes verbankten wir das obenstehende Portrait des bekannten Reisenden Möllhausen, dessen Fahrten und Abenteuer jetzt mit so viel Interesse gelesen werden. Möllhausen war eine Zeitlang selbst Trapper und hat sich in dieser Eigenschaft photographiren lassen." (*transl.* 'To the goodness of a friend we entrust the above portrait of the well-known traveler Möllhausen, whose voyages and adventures are now read with so much interest. Möllhausen was a trapper himself for a while and allowed himself to be photographed in this capacity.')

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\*Footnotes in the text that direct readers to Möllhausen's endnotes are also hyperlinks

## **Editions of Balduin Möllhausen's *Reisen***

- [1860] *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Otto Purfürst (Leipzig), 2 volumes.\*
- 1861 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Hermann Costenoble (Leipzig), 2 volumes.\*
- 1867 *Resor i Norra Amerikas klippberg till Ny-Mexicos högslätt, företagna af Colorado-Expeditionen, enligt uppdrag af Förenta Staternas regering, och beskrifna af Balduin Möllhausen, Medlem af expeditionen.* (C. E. Möller, translator.) Tryckt hos R. G. Berg (Stockholm), 2 volumes. [In Swedish.]
- 1960 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Lost Cause Press (Louisville, Kentucky), 2 volumes on 11 microopaque cards.
- 1975 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico.* H. A. Gerstenberg (Hildesheim), 2 volumes. ("Reprographischer Nachdruck der Ausgabe Leipzig 1861.")
- 1975 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico.* (Introduction by Erich Heinemann.) Borowsky (München), 2 volumes. [Author's name given as Balduin von Möllhausen.]
- 1997 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Research Publications (Woodbridge, Connecticut), 2 volumes on 11 microfiche.
- 2009 *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Fines Mundi (Saarbrücken), 2 volumes. (Edition Terra Incognita.) ("Unveränderter Faksimile-Reprint".) [Facsimile reprinting of the 1861 Costenoble imprint\*, with color illustrations and folded map.]

*Various on-demand reproductions, of varying quality, have also been produced in the 21st century, which, being bibliographically superficial, are not included in this list.*

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\* See also Appendix 1 herein, "Bibliographical Notes on the Leipzig Imprints of Balduin Möllhausen's *Reisen*."



## Preface

**HEINRICH BALDUIN MÖLLHAUSEN** (1825–1905) left Germany for the first time in 1849 to hunt in the American Midwest, where he supported himself with the odd job of clerking or commercial painting. Two years later he met up with Friedrich Paul Wilhelm, Herzog von Württemberg, better known in American history as Duke (or Prince) Paul Wilhelm of Württemberg, who with a small entourage had set out to explore the Rocky Mountains. Möllhausen asked to join him, and served as a draftsman. They reached Wyoming, but on the return trip Möllhausen was left behind when there was no more room in a mail coach that took the duke away from a snowstorm that had killed their horses. Balduin barely survived, alone on the prairie for several months, and eventually was rescued by Indians. He later rejoined the duke in New Orleans and returned home to Germany. He was soon introduced to the great adventurer–geographer Alexander von Humboldt and met Carolina Seifert, the daughter of Humboldt’s private secretary—or the unmarried Humboldt’s own daughter, if some would have it—whom he later married. From then on, Möllhausen was a keen follower of his mentor, and Humboldt provided prefaces and salutary promotions for Balduin’s publications.

His experiences on the prairie gave him a taste for further adventures promised in the American West. With a letter of introduction from Humboldt, Möllhausen returned to America to see if he could join one of the western government-sponsored expeditions then being planned. He was assigned as a draftsman for the 35th parallel Pacific Railroad survey of 1853–1854 under the command of Lt. Amiel Weeks Whipple, which passed through the area south of the Grand Canyon, eventually arriving on the lower Colorado River and proceeding to the west coast. He also

provided illustrations for Whipple's final report (1856).<sup>1</sup> Back in Germany again, he also published his own account of the expedition in 1858, *Tagebuch einer Reise vom Mississippi nach den Küsten der Südsee* [Diary of a Journey from the Mississippi to the Coasts of the South Sea (*Pacific Ocean*)], which has seen reprintings and translations.

In 1857, Lt. Joseph C. Ives, U.S. Army Corps of Topographical Engineers, who had also accompanied the Whipple expedition, invited Möllhausen to join him again, on an expedition that this time Ives would command, as the expedition's illustrator and assistant in natural history. After the conclusion of this expedition he returned to Germany for the final time, where he turned out in 1861 his *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico* [Travels into the North American Rocky Mountains to the High Plateau of New Mexico]. This expedition was (officially) to ascertain the head of navigation of the Colorado River, though it also investigated the extent of Mormon incursions into the regions south of Utah. Once the head of navigation was determined on a trip upriver in the *Explorer*, a small steamboat built in Philadelphia just for this expedition,<sup>2</sup> Ives divided his command into two groups; one returned down the Colorado River, the other, under Ives, traveled eastward overland. Although some intentions were had to explore other areas, the group finally concluded its work at Fort Defiance, New Mexico Territory.

At the conclusion of the river expedition, Möllhausen accompanied the overland party, which became the first to purposely reach the Grand Canyon in an attempt to ascertain more surely the geographical relationships of the region, most importantly the coordinates of the confluence of the Little Colorado River with the Colorado (which they failed to accomplish due to the impassable canyons and side canyons).

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<sup>1</sup> A. W. Whipple, with J. C. Ives, Report of explorations for a railway route, near the thirty-fifth parallel of north latitude, from the Mississippi River to the Pacific Ocean. In *Reports of Explorations and Survey, To Ascertain the Most Practicable and Economic Route for a Railroad from the Mississippi River to the Pacific Ocean. Made under the direction of the Secretary of War, in 1853-4, according to Acts of Congress of March 3, 1853, May 31, 1854, and August 5, 1854. Volume III.* A. O. P. Nicholson, Printer (Washington, 1856), separately paginated sections (647 pp. total). (Volume: U.S. 33rd Congress, 2nd Session, House Executive Document 91.) [See Part 1, "Itinerary" [1854], and Part 2, "Report on the Topographical Features and Character of the Country" [1856].]

<sup>2</sup> About the *Explorer*, see a historical review from the perspective of the boat's engineer, by Earle E. Spamer, *Explorer: Andrew J. Carroll on the Colorado River, 1857-1858* (Raven's Perch Media, Philadelphia, 2022), <https://ravensperch.org>.

Ives' formal report was published as a U.S. Congressional document in Washington, D.C., in 1861.<sup>3</sup> The significance of Möllhausen's work to Grand Canyon–Colorado River history is that it predates the release of Ives' formal report, by several months at least; it constitutes the first-published comprehensive accounting of explorations on the Colorado River and in the Grand Canyon. It also provides details and perspectives not included in Ives' report. It is unfortunate that his Grand Canyon story, at least as in his own words, has been lost in the backwaters of canyon history, having lacked a translation that would have made it accessible to English-speaking readers. This volume offers an expedient answer to the problem, at least until such time that a more proper historiographical study of this part of the expedition is produced by scholars in the field.

In Germany, Möllhausen finished his illustrations for Ives' report, a series of watercolors that were used to produce many of the lithographs in that report. Other illustrations were created by Friedrich Wilhelm von Egloffstein, who after having accompanied other expeditions in the West was attached to the Ives expedition as cartographer and illustrator. Möllhausen's watercolors disappeared, but were subsequently rediscovered in the 20th century, where they now are in the collections of the Amon Carter Museum and have been the subject of their own book. Egloffstein, too, along with his maps and illustrations, has also been the subject of recent publications, including a biography centered on his cartographical work. (See the "illustrations" and "maps" sections below.)

After Möllhausen published his Colorado River expedition account, which was translated in 1867 into Swedish but never into any other language, he settled into a successful life as a writer of dozens of adventure stories and novels, many of them set on the American frontiers, with a special, though occasional, emphasis on the Mormon culture. For these writings he became known as the "German Cooper," after the American adventure novelist James Fenimore Cooper.

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<sup>3</sup> Joseph C. Ives, "Report Upon the Colorado River of the West, Explored in 1857 and 1858 by Lieutenant Joseph C. Ives, Corps of Topographical Engineers, Under the Direction of the Office of Explorations and Surveys, A. A. Humphreys, Captain Topographical Engineers, in Charge. By order of the Secretary of War", *U.S. 30th Congress, 1st Session, House Document 90* [concurrently produced as an unnumbered *Senate Document*. (U.S. Government Printing Office, Washington, 1861), 5 parts and four appendices in 1 volume. Accompanying the volume were two large map sheets, drafted by the baron F. W. von Egloffstein.

## Möllhausen's First Report, 1858

Möllhausen was in fact the first to publish anything about the Colorado River expedition. His brief report appeared in a German serial in the fall of 1858, even before J. C. Ives had had a chance to complete his own *preliminary* report on the expedition, which appeared in a year-end summary of U.S. Army activities.<sup>4</sup> Inasmuch as Möllhausen's report was first, and which dealt mostly with the Grand Canyon leg of the land expedition, that part is recounted here, in translation:<sup>5</sup>

Continuing the journey north-east one finally comes to the angle formed by the southwest-flowing Colorado and its tributary coming from the southeast, the Colorado Chiquito, and at the same time to a barometric elevation of 9,000 feet above sea level and at least 7,500 feet above level of the Colorado. There now begins the highland, which seems to stretch out in all directions like a wide plain, the horizon of which is seldom interrupted by misty hilltops, but more frequently by crevasse-like indentations in the plain itself. There is an indescribable, frightening loneliness up there; stunted cedars seem to change their shape in the distance through mirage, or, dead and robbed of their dark green adornment, rise up like the weathered, gigantic antlers of prehistoric stags. Scorching heat up there warms the rocky, waterless plain, withers the grasses that sprout in hidden corners, and ripens the thorny fruits of the cacti. At other times, an icy storm accompanied by violent thunder whirls dense masses of snow over the plateau, threatening the demise of the people and animals who have strayed there, commanding awe before the mighty, all-encompassing force of nature.

If, with the intention of reaching [either] the big or the little Colorado, one directs one's steps northwards, to where cracks in the ground form mighty towers and walls that stand out sharply against the horizon, but at the same time also reveal the course of large bodies of water, you soon find yourself in a labyrinth of gorges that are all the more surprising for their depth, as they are hardly recognizable from a distance because of the slight subsidence of the ground. It is only

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<sup>4</sup> "Colorado Exploring Expedition. Preliminary Report of 1st Lieutenant J. C. Ives, Topographical Engineers, to Captain A. A. Humphreys, Topographical Engineers, in charge of Office of Explorations and Surveys, War Department, November, 1858." *As a part of* A. A. Humphreys, [Annual report to the Secretary of War, December 6, 1858]. *From* John B. Floyd, "Report of the Secretary of War," *in Message of the President of the United States to the two houses of Congress at the commencement of the Second Session of the Thirty-fifth Congress: December 6, 1858* (William A. Harris, Printer, Washington), pp. 608-619. (President's message: *U.S. 35th Congress, 2nd Session, Senate Executive Document 1, Serial 975*.) [See with Appendix 2 herein.]

<sup>5</sup> Balduin Möllhausen, "Der Rio Colorado des Westens," *Zeitschrift für Allgemeine Erdkunde*, New Series, Volume 5, pp. 438-443. This translation, as well as the original German text, also appears in *The Grand Canyon! A Worldwide, Year-By-Year Anthology and Annotated Bibliography of Personal Encounters with the World's Greatest Draw, 1540-2022* (Earle E. Spamer, compiler, ed., Raven's Perch Media, Philadelphia, 2022, No. 19, pp. 45-48), <https://www.ravensperch.org>.



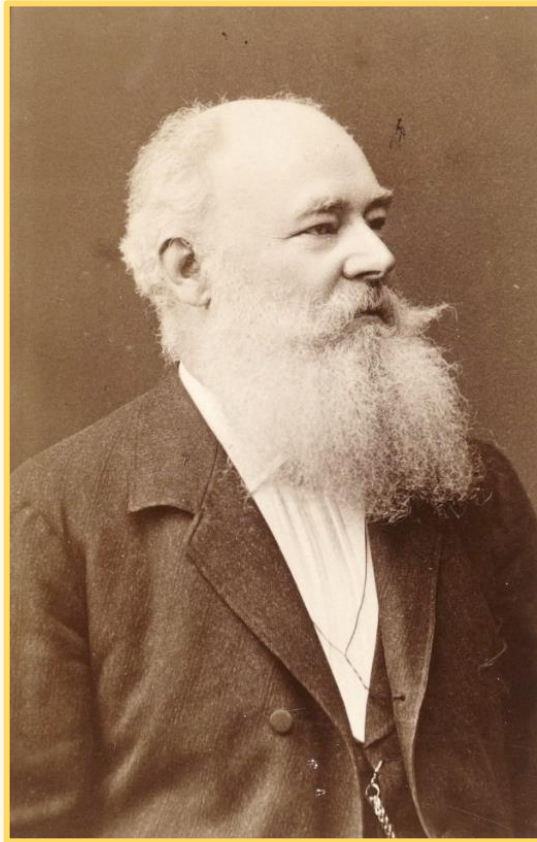
partially possible to follow such a gorge, as very soon chasms of 50 to 500 feet in depth interrupt it. Riding on a protruding horizontal rock formation as if on the outermost edge of a roof along horrible abysses, one now also reaches places where even the sure hooves of mules can no longer find footing and only the way back remains open, a way that leads over terrible depths seeming to float freely in the air, where one likes to shade one's eyes in order not to see the rocky masses that seem to slide lazily past one another, where the stones that come loose under one's feet do not roll down noisily but fly inaudibly through wide spaces, falling heavily on the rocky ground far below, and the shock thus produced, but muffled by the distance, echoes eerily in the cracks and crevices. What cannot be achieved with the help of animals, man still attempts with his own strength. Using long ropes on the perilous path, we went farther, but only so low as to see the impossibility of entirely traversing the difference in elevation between the plateau and the Colorado, which there is over 7,000 feet. It was therefore only left for us to gain the heights again at that point and to cast a glimpse into this peculiar, closed as it were, world.

What lies before the admiring eye seen from the dizzying heights, words cannot adequately describe; like chaos deep ravines and isolated, box-shaped remains of the highlands merge into one another; above the dry, brick-red sandstone bed below, the formations of different epochs tower thousands of feet high, clearly recognizable by the glaring color contrasts; the walls are vertical, as if the slightest shock could throw them down; one trembles at such a sight and involuntarily steps back from the abyss; wherever one turns one's eye, one encounters bare dead rock everywhere, everywhere the banks of deeper, more distant gorges seem to appear, calling to the inquiring traveler an imperative stop, but at the same time awakening a faint sense of infinity at the thought: that the falling drops [rain] formed the gorges that yawn at him on all sides.

We got to the canyons 3000 feet deep; a few miles farther, but still 4000 feet below, flowed the Colorado, but it would have taken more than human strength to go where we could have sighted the mysterious stream; we parted without seeing it again. Thus man often stands close to his goal, but in the face of terribly sublime nature he feels his own powerlessness; he envies the consecration that hovers over the abysses on sure wings, he follows her in spirit and with foreboding horror creates for himself an image of the rocky valley of the Colorado of the west, which will certainly remain shrouded in mysterious darkness for a long time to come.

Several times we tried to get further northeast down to the Colorado, whose banks we thought we could distinguish from the foot of the San Francisco Mountains, but we found the rocky desert impenetrable everywhere; even the friendly Moqui Indians seemed dissuaded by a particular reluctance to seek or point to a trail down to the Colorado. We saw none of the high falls which a river must descend, for a distance of about 80 German miles, nearly 3,000 feet in elevation. We gave up our work only when the complete lack of food and the complete exhaustion of the mules that were left to us compelled us to do so. We escaped to New Mexico and were fortunate enough to bring all our notes, drawings and collections with us.

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Balduin Möllhausen, 1883

*Carte de visite* by Hermann Selle, Potsdam  
(detail)

## Introduction to the Translation

The main purpose of this translation has been to make the entirety of Möllhausen's account of the Grand Canyon portion of the expedition under Lt. J. C. Ives available for the first time in English, more than a century and a half after its original publication. The job of making the entire two volumes available in English will have to be a project for others. While others of Möllhausen's accounts of American explorations, tending his image as a rugged trapper, hunter, and adventurer, have been translated into English, his story of the Colorado River expedition, published in 1861, was only translated into Swedish, and that in 1867. Even though his expedition record is a lively contrast to the detailed (and itself engaging) "General Report" of Lt. Ives, also published in 1861, only bits of his work have appeared in English translation, over many years, and the Grand Canyon account still begged to be told as a single story. Thus it is high time that readers of Grand Canyon literature in English have access to Möllhausen's experiences and impressions.

The translation was created through the use of Google Translate online. One must agree with those who know, that there is no such thing as a word-for-word translation, that it is an art form responding to context and grammatical and other nuances. Google Translate is simply a "neural machine translation service" that takes on a sentence at a time, a service that which over time "learns" to construct better and more grammatically correct sentence structure and word selections.

But far from this being a simple transfer of results from Google Translate, this volume is the product also of judicious editing, first for sense, then when necessary using retranslations to avoid awkward synonymies introduced by the artificial translator. Conventional German-English dictionaries have assisted, as also have other translation resources. Möllhausen's run-on sentences contribute a stilted feel to the translation, too, which emphasizes the fact that a more elegant rendition by someone who is fluent in both languages would produce a clearer text for readers in English, even though that would likely be at the expense of Möllhausen's effusive narrative style that also includes an occasional interminable paragraph spanning several pages.

In order to compare Möllhausen's observations and remarks against the official report of the Colorado River expedition by Lt. Ives, an appendix herein transcribes from the same period Ives' journal entries from his "General Report." This is provided

strictly as a historical comparison and is not meant to imply that either report supersedes the other. Ives' report is that of a military commander, while Möllhausen's is an adventure story written for his German audiences.

What is particularly striking about the two accounts is that they agree so much in specific observations, sometimes with the same terminology, which tends to corroborate a great deal of remembered conversation between the narrators while they were in the field. Although there had been time enough for Möllhausen to send his watercolor illustrations back to America to be made into lithographic illustrations for Ives' official *Report*, there would have been impossible for either to have borrowed from the writings of the other, as Möllhausen's *Reisen* and Ives' *Report* were published nearly contemporaneously, although Möllhausen was, strictly speaking, chronologically first. The German did, though, have a chance to see Ives' *preliminary* report produced at the end of 1858, inasmuch as he quoted very briefly from it in Volume 1 (p. 380) of his *Reisen*.

All references to "New Mexico" are of course to New Mexico Territory as it existed prior to the creation of Arizona (in 1861) and for a while incorporating a small wedge of today's southern Nevada.

The Grand Canyon itself was known as "Big Canyon" in those days, the name used by Ives in his *Report* and by which it appears on Egloffstein's map. John Strong Newberry, the expedition's naturalist whom Möllhausen assisted in those duties, preferred another contemporary rendition of the name, "Great Canyon."<sup>6</sup> However, Möllhausen, even though he notes the names of other canyons, does not refer to the canyon by any particular name, preferring to focus more consistently on the passage of the "great Colorado."

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Readers of both Möllhausen and Ives should rightfully keep in mind the presence of Euro-American cultural and social biases of the day, that some of the observations and opinions herein about Native Americans, and to a lesser extent Mexicans, are offensive. Nonetheless, these are their words, without further editorial remark since the present volume is neither one of historiography nor of critical assessment.

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<sup>6</sup> Regarding the names for Grand Canyon, see Earle Spamer, "Big Canyon, Great Canyon, Grand Canyon: The mysterious evolution of a name", *The Ol' Pioneer* (Journal of the Grand Canyon Historical Society), Volume 33, no. 1 (Winter 2022), 8–18.



## Möllhausen's Illustrations

Three illustrations that appeared in Möllhausen's Chapters 21–25 are reproduced in this translation. These chromolithographs by A. Edelman of Leipzig were created from original watercolors painted by Möllhausen.

Many watercolors of scenery and Native Americans were also sent to America to be made into lithographs to illustrate Joseph C. Ives' report on the Colorado River expedition (and its land component). These were later misplaced, and rediscovered later in the 20th century. Forty-seven pieces are now in the Amon Carter Museum of American Art, in Fort Worth, Texas, and are illustrated on the museum's website, <https://www.cartermuseum.org/artists/heinrich-balduin-mollhausen>.

For more on the paintings, and an excellent biographical introduction to Möllhausen, see Ben W. Huseman, *Wild River, Timeless Canyons: Balduin Möllhausen's Watercolors of the Colorado* (Amon Carter Museum, Fort Worth, Texas, 1995; distributed by University of Arizona Press, Tucson). The entire Möllhausen collection is also reproduced in that volume.

Chromolithographs from Möllhausen's *Reisen* reproduced in this translation\*

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\* Illustrations are courtesy of The Linda Hall Library of Science, Engineering & Technology.

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## F. W. von Egloffstein's Maps

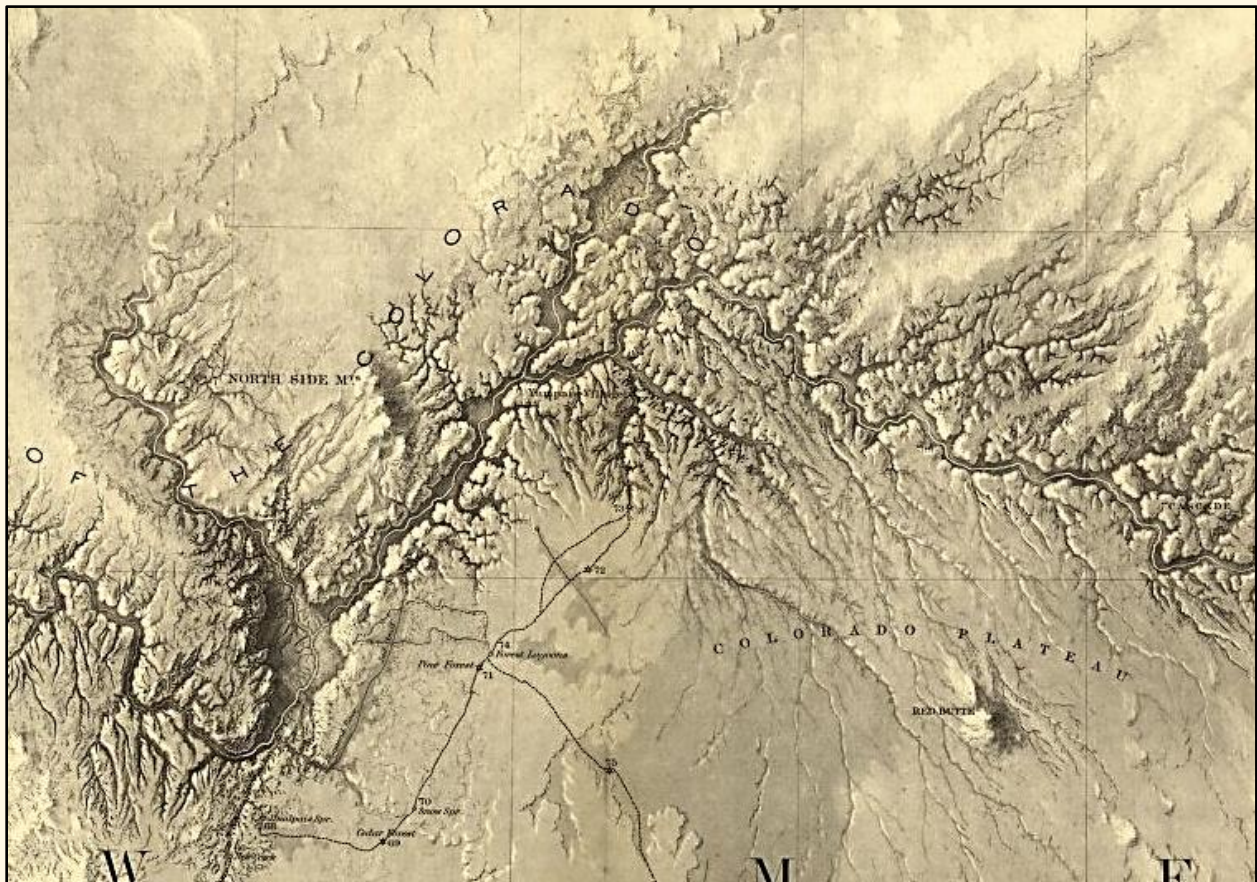
In his *Reisen*, Balduin Möllhausen, peculiarly, made very infrequent mention of his German compatriot, Friedrich Wilhelm von Egloffstein, whose responsibility was to create the maps of the expedition on the Colorado River and overland. The two men also served as the expedition's illustrators. Much has been written about Egloffstein's novel style of shaded relief, which brought a precise beauty to his products; and more still has been written about the wildly impressionistic depictions of landscapes that he drew, which is beyond the scope of the present volume. The maps accompanied *Report upon the Colorado River of the West, explored in 1857 and 1858 by Lieutenant Joseph C. Ives, Corps of Topographical Engineers, under the direction of the Office of Explorations and Surveys, A. A. Humphreys, Captain Topographical Engineers, in charge. By order of the Secretary of War* (Washington, 1861; U.S. 30th Congress, 1st Session, *House Document 90*; also concurrently as an unnumbered *Senate Document*).

Egloffstein's two maps of the Ives expedition are beautiful works of art. The map of the lower Colorado River region, showing the river's course over four panels on one sheet, between Yuma and Black Canyon, is very good. But the map of the Grand Canyon area is particularly imaginative, especially for the central and eastern parts of the canyon and the confluence of the Little Colorado River. The incongruity—quite recognizable to modern eyes—was not, of course, due to incompetence, but for the fact that the expedition had no success in attaining one of its objectives, to ascertain the latitude and longitude of the Little Colorado confluence, a geographical benchmark, and that Egloffstein's surveys of the Grand Canyon region had to rely on oblique views over great distances because the numerous side canyons were impassable; plus some conjecture. The lower Colorado River map was good because it was mapped on the scene as the expedition made its way upriver.

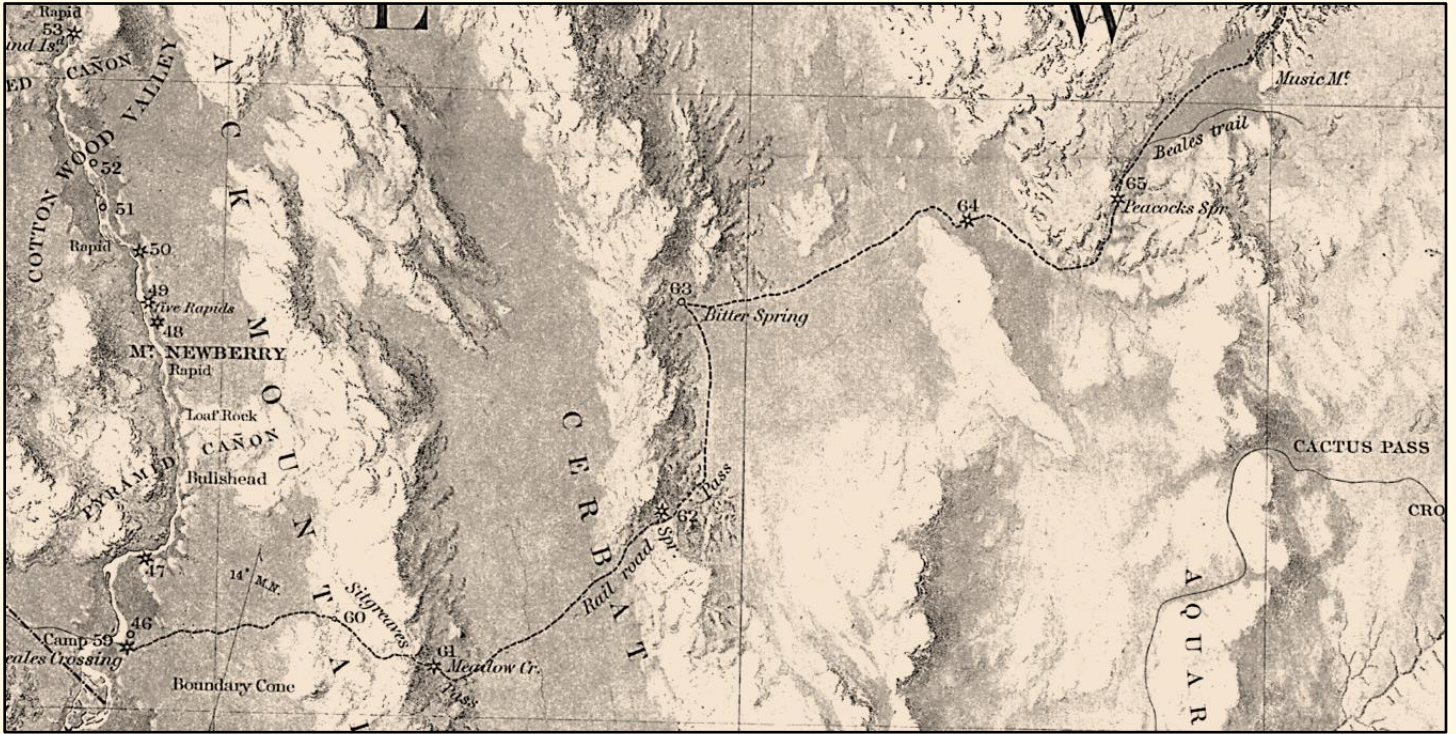


Above. Egloffstein's Map No. 2, from J. C. Ives' report on the Colorado River expedition (1861), depicting the region around "Big Cañon of the Colorado." The route of the Colorado River from Utah is undetermined, and the Little Colorado River (approaching from the southeast) is shown reaching the Colorado in the middle of the Grand Canyon. Cataract Creek is here a tributary to the Little Colorado.

Below. Detail of the Little Colorado River confluence area, as interpreted by Egloffstein. (Peach Springs Canyon and the confluence of Diamond Creek are at *lower left*, on the south side of the river.)

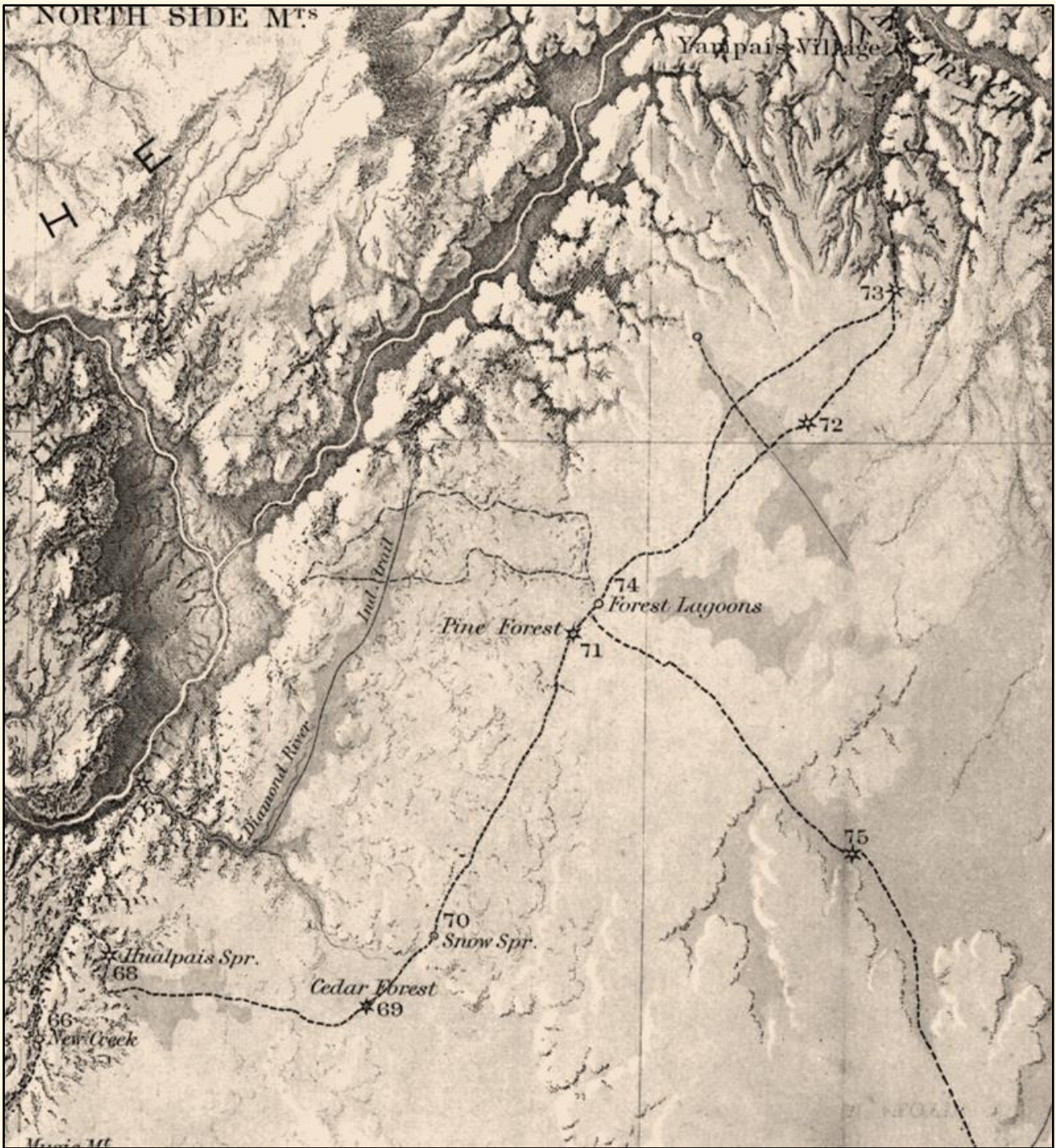






Detail depicting the land expedition's route from Beale's Crossing on the Colorado River (*lower left*) and Music Mountain (*upper right*), just south of Diamond Creek. Numbers along the route indicate the expedition campsites as enumerated by Joseph C. Ives in his General Report (1861). This map, and the map on the following page, embrace the area encompassed by this translation.





Detail depicting the land expedition's route between Music Mountain (*lower left*) and the departure from the Grand Canyon area (*to the southeast*). The descent to Diamond Creek (Diamond River on the map), which follows today's Peach Springs Canyon, is shown at *lower left*. The trip to Cataract Creek (Havasus Canyon) is depicted from *lower left to upper right*. Note also the side trips. Numbers along the route indicate the expedition campsites as enumerated by Joseph C. Ives in his General Report (1861).

Usefully, Egloffstein's Grand Canyon map also includes the overland route that the land expedition followed, and, continuing Ives' practice on the river portion of the expedition, enumerated the campsites (*see above*). These details further serve to illustrate Möllhausen's narrative, since he did not include an expedition map in his *Reisen*. When referring to the maps above, bear in mind that this is the geography as interpreted by Egloffstein, which does not perfectly reproduce the modern perspectives of the region.

For more on Egloffstein and the canyon, and a biography of the man, see Steven Rowan, *The Baron in the Grand Canyon: Friedrich Wilhelm von Egloffstein in the West* (University of Missouri Press, Columbia and London [U.K.], 2012).

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## Möllhausen's Chapter Outlines

In order to place in perspective the entirety of Möllhausen's two volumes, and the events that he recorded during his participation in the Colorado River Expedition, all of his chapter outlines are reproduced here.

### VOLUME ONE.

#### Chapter One.

The great Colorado of the West; character of the river, its valley and the stretches of land it intersects.

#### Chapter Two.

Trip to New York — Sinking of the steamboat Central America — Departure from New York — Havana. — Panama — The Steamboat Panama — Arrival in San Francisco — The stay there — Departure of the expedition.

#### Chapter Three.

San Pedro — Pueblo de Los Angeles — The viticulture there — Lieutenant Beale arrives with the camels — Departure from Pueblo de los Angeles — The San Fernando Mission — General Pico — San Fernando Pass — The Texan frontiersman and his story.

#### Chapter Four.

The Santa Clara River — San Francisquito Canyon — San Francisquito Pass — The first snow — Lake Elizabeth — Traces of earthquakes — The Great Basin — The Irishman John — Lake Cafeteca — Canada de las Uvas — Fort Tejon — Excursion to the Tulare valley — Kern Lake — Kern River.

### Chapter Five.

The old fur hunter — Gale's Tales — News about the Colorado — Gale's first encounter with the Mohave Indians — The hunt for wild cattle — Ride to the natives — The Tejon Indians — Departure for the journey home — Bishop's Farm — The camel caravan — Arrival at Fort Tejon.

### Chapter Six.

Stay in Fort Tejon — The woodpeckers — The graves — Departure from Fort Tejon — Journey to Pueblo de los Angeles — The stay there — Travel to Fort Yuma — Temacula — Warner's Pass. — San Felipe — Wallecito. — Carizo creek — Edge of the desert — The desert — Indian Wells — Alamo Mucho — Cook's Well — Arrival at the Colorado.

### Chapter Seven.

The Rio Colorado — Pasqual, the chief of the Yuma Indians — Fort Yuma — The vicinity of Fort Yuma — Dome Mountains — Colorado City — The earthquakes — The mud volcanoes — The Yuma Indians — The officers of the military post — Life in the camp on the banks of the Colorado — The Chimney Rock in the Rocky Mountains — Tale of an adventure of Duke Paul Wilhelm von Württemberg in Nebraska.

### Chapter Eight.

Arrival of the mail — Cables for Lieutenant Ives — Christmas — Numerous wolves — Poisoning of the same — Departure of the steamboat "Jessup" up the Colorado — Arrival of Lieutenant Ives — New organization of the expedition — Peacock's ride to San Francisco — Description of the stretch of river between Fort Yuma and the Gulf of California — The steamboat "Explorer" — Mr. Caroll [sic]\* — Mr. Robinson — The last night at Fort Yuma — Departure of the expedition — The two interpreters — Character of the stream — Second camp on the shore — Captain Robinson's tale.

### Chapter Nine.

Winding over sandbars — The white settler — *Cereus giganteus* — Purple Hill Pass — The beautiful prospects — The gravel desert — Beavers in the Colorado — Music in the camp — Breaking the rudder — Chimney Peak — Journey around Chimney Peak — Alluvial land — The Sleeper Rock — Red Rock Gate — Light House Rock — Porphyry Pass — Gravel plains — Long range and short range — Indians on the shore — High banks — Sand Martins — Camp on the sand island.

### Chapter Ten.

Narrative of the adventures in Nebraska — The camp at the Yuma village — Visit of Yuma Indians — Chemehuevi and Mohave Indians on the shore — Behavior of the Indian women — The alluvial soil of the valley — Bon voyage on January 23rd — Chemehuevi Indians in the camp — The sandstorm — The Sunday celebration — Change of itinerary — Mountains in all directions — Half-

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\* In his *Reisen* Möllhausen consistently misspells the name of the steamboat *Explorer's* engineer, Andrew Carroll, who accompanied the dismantled vessel from Philadelphia and operated and repaired the machinery on the Colorado River. While neither he nor J. C. Ives mentioned Carroll's given name, it was discovered by Spamer during work for a forthcoming study of the man's role in the expedition.

way range — Riverside Mountains — Character of the canyons in the gravel desert — Numerous sandbars — The trip up the river — Camp on the sand island.

#### Chapter Eleven.

The first Mohave Indians — The Mohave messenger — Letters home — Chemehuevi Indians — Finding a known chief again — Northern slopes of the Riverside Mountains — The valley in front of the Monument Mountain range — Monument Mountain — The playing Indians on the bank — Marnatscha's gambling away his things — Meeting with the steamboat "Jessup" — News from the north — Departure of the two steamboats — Sunday on the island — The Indian fishermen — Continuing the tale of the adventures in Nebraska.

#### Chapter Twelve.

Continuation of the Explorer's journey — Ravine before Bill Williams fork — Mouth of the Bill Williams fork — Duck hunting — Sandstorm — Uncomfortable camp — Fishing in Bill Williams fork — The Mohave messenger — The Saw Rocks — The Chemehuevi Valley — The sandbars — Slow travel — High gravel plain formation — Mamatcha's return journey — Chemehuevi Indians — Rest day on a sandbank — The Indians as natural history collectors — The abandoned Indian hut — Northern end of the Chemehuevi Valley — The Needle Rocks — Entrance to the gorge — The rapids — Moving of the Explorer over the same.

#### Chapter Thirteen.

The Mohave Canyon — Passing through the same — Tale from my hunting home in Illinois — End of Mohave Canyon — The Mohave Valley — The Mohave Indians — First camp in the Mohave Valley — Bartering with the natives — The natives as natural history collectors — Trading in kind.

#### Chapter Fourteen.

Onward journey in the Mohave Valley — The chief José — The Mohaves troubled by rumors of war — Negotiation with the chief — On the general treatment of the natives by the United States — The Indian thief — Presenting the chief — Diversity of the natives in the mountains, of those in the valley of the Colorado — Character of the river — Camp on the sandbank — Stringing beads — Shallow water — Unloading of baggage — Walk on the shore — Onward journey in the evening — Sunday rest — Meeting with Cairook and Ireteba — Good behavior of the natives.

#### Chapter Fifteen.

Story continued: From my hunting life in Illinois — The chief Karook and his wife as fellow travelers — Character of the river — Painting the natives — The 35th degree of north latitude — Boundary Hill — Black Mountains — Beale's Crossing — Northern boundary of the Mohave Valley — Desert environment — The gorge — Obelisk Mountain — The rapids — The steamboat going over the same — Jessup's Halt — Camp there.

Chapter Sixteen.

Maruacha's return to his homeland — Unsuccessful attempts to get across the rapids — The rest day — The cave in the shore — The sandstorm — Bypassing the rapids — Excursion to the plateau — Effect of the water in the same — Washington's birthday — The sandstorm — Departure at last — Message from the [mule] train — Sinking of the steamboat Jessup — Chemehuevi Indians — Opening in the mountains — Entry into a valley — Camp on a sandbank — Continuation of the story: The adventures in Nebraska.

Chapter Seventeen.

The Cottonwood Valley — Mountain of the Dead — Mount Davis — Painted Cañon — Stay on Round Island — Attempts at Mohave conversion by the Mormons — Firing of signal rockets — Difficult journey — Black Cañon — The steamboat ran into a rock — Landing in the Black Canyon — End of navigability of the Colorado — Life in the canyon — Waiting in vain for the train — Formation of the rocks in the Black Canyon — Magnificent view — The echo — Lieutenant Ives' journey in the ravine — Opal in the mountains — Ireteba's journey to the Mohave villages and his return without news — Arrival of Mohave Indians — The fishing of the same.

Chapter Eighteen.

Bath in the Colorado — Sandstorm — Character of the Black Cañon — The connection of the Colorado with the Mormon road — Excursion into the mountains — Message from the train — Comparison between the Indian tribes on the Colorado and those east of the Rocky Mountains — The legend of the Manitou Rock — Departure for the downstream journey — Dispatch of a messenger to the Mormons — Camp under the cottonwood trees — The spy in the camp — Ireteba's apparent infidelity — Message from the train — Peacock's arrival — Unpleasant news of the state of the mules.

Chapter Nineteen.

Arrival of the train — Arduous journey of the train up the Colorado — News of the stretch of land between the Colorado and the Mormon roads — Heading south — Disturbing behavior of the natives — Arrival at Beale's Crossing — The last concert — Enemy escapes of the Mohaves — Shooting of mules — Peacock's tale — The peace agreement — The Explorer's departure — Farewell to the Mohaves — Departure of the land expedition.

Chapter Twenty.

The navigability and character of the Rio Colorado — The natives of the same — Their explanation and presumed relationship — The North American civilization.

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## VOLUME TWO.

*[Chapters 21–25 are encompassed by the present translation]*

### Chapter Twenty-one.

Departure of the land expedition — The Indian guides — Travel on the gravel plain — Character of the same — Night camp in the mountains — Passage over the first mountain range — Beale's Pass — Rest day at the spring — Excursion to the mountains — Travel of the expedition through the wide valley — Character of the same — Camp in the second mountain range — Formation of the same — Transition over the same — The second valley — Camp on the edge of the same — Lack of water and food — Storm, rain and snow — Rest day — Narrating the oldest history of St. Louis.

### Chapter Twenty-two.

Journey through the second valley — Water shortage — View of the Aquarius Mountains — Warehouse at Wallpay spring — Social intercourse with the leaders — The rest day — The first antelope — The two Wallpays — Departure from the spring — The plateau — Music Mountains — The Wallpay guide — Descending into the Wallpay Canyon — Camp in the same — Warm spring — View of the gorge — Visit to the Wallpays — Travel down Wallpay Canyon — The magnificent rock formations — The natives in the ravine — The difficult way — Arrival at Diamond Creek.

### Chapter Twenty-three.

Camp at Diamond Creek — Hikes on the Colorado — Heavy rapids — The rest day — Drawing at the Colorado — Character of the river and its banks — Wallpay Indians — Egloffstein's late return from the mountains — The loss of the dog — Return journey through the Wallpay Canyon — The Wallpay guide departs — Rewarding the Mohaves — Travel up to the plateau — Camp without water — A Wallpay guide escapes — Journey to water — Excursion to the second level of the plateau — Character of the same — Antelope hunting — Loss of a soldier — Night snowstorm — Desperate search for missing person — Final return of the same.

### Chapter Twenty-four.

Peacock's Tale — Change of itinerary — Travel up to the plateau — Blizzard and thunderstorm — The camp in the snow — Stay of two days — Melting of the snow — Departure — The San Francisco and Bill Williams mountains — The Lagoon — Finding a new road — Camp without water — Turning into a gorge — Hike on the dangerous rock path — Insurmountable obstacles — Reversal of the expedition — Sending the herd back to the lagoon — New attempt to walk the Colorado — The hike down into the gorge.



Chapter Twenty-five.

Climbing the plateau — The strange formation of the canyons — The rock cauldron — Wonderful view of the same — Return to camp — Absence of Lieutenant Ives and his detachment — Marsh birds on the plateau — Arrival of Lieutenant Ives — Description of the deep gorges — Missing two soldiers — Excursion to another rock basin — Description of the same — Finding the lost — Harnessing the mules — Division of the expedition — Exploring the unknown road — Union and camp of the two departments at the lake — Other travel plans — Departure for the journey to the San Francisco mountains — The lower gradation of the highlands — Water shortage — Wandering in the canyons — Beale's Street — Volcanic region — Choosing water — The gray bear.

Chapter Twenty-six.

The bear hunt — Description of a bear hunt on the Missouri — Journey down Partridge Creek — Return journey in the gorge of Partridge Creek — Departure east — The grassy camp — Description of the country — Camp near the Bill Williams Mountains — Proceeding parallel to Whipple's Road — Bears and a bear hunt — Wild — Journey to Leroux's Spring — Camp there.

Chapter Twenty-seven.

Excerpt from Leroux's diary, concerning the Rio Verde — On the direction of the migrations of peoples to New Mexico — The inaccessibility of the northern border of New Mexico — The different routes by which immigration [Indian migrations] divided — The alleged military roads — Population of northern New Mexico — Remaining behind during the migration to the south — Aztec words indicate the movement of this people on the coast of California — Migration of the Pimos [Pima] to the south — Relationship of this tribe to the Casas Grandes.

Chapter Twenty-eight.

Departure from Leroux's spring — Camp at the supposed Cosnina caves — The snowstorm — The day of rest in the snow — Journey down to the Colorado Chiquito — Ruins of Indian buildings — Arrival in the valley of the Colorado Chiquito — Division of the expedition — Crossing of the river by the detachment heading for the Moqui towns — Journey up the river — Chevelons fork — Passage of the train through the same — Cottonwood fork — Meeting with Savedra — Tales of Savedra — Last camp on the Colorado Chiquito.

Chapter Twenty-nine.

The Rio Secco or Lithodendron Creek — The petrified jungle — Carrizo Creek — Sudden emergence of a stream — Crossing over the Rio Puerco of the West — Navahoe springs — Jacobs Well — Arriving on the Zuñi plain — Friendly intercourse with the Indians — José Maria, the war chief —

Pedro Pino's visit to the camp — Hike to the city — Pedro Pino's house and hospitality — The Mexican Father — Visit to the same — The church of Zuñi — Return to the camp.

#### Chapter Thirty.

The Murder — The Burial — Zuñi formerly the city of Cibola — Camp in the canyon — Crossing the Navahoe lands — Going down to the Puerco — Numerous Navahoe cattle herds — Arrival at Fort Defiance — Camp moved to a small canyon — The natural bridge — Animal life in the canyon — The theft — Description of the surroundings of the fort — Cañon Debonito — The fort — Relationship between the Americans, the Moquis and the Navahoes.

#### Chapter Thirty-one.

The Navahoes — Lieutenant Ives' arrival — The Moqui Indians — Bad reception of them at Fort Defiance — Departure from Fort Defiance — Prairie dog villages — The lake near the Continental Divide — Navahoes visit the camp — Mount Taylor — Camp at the Blue Water — Camps near the Camino del Obispo — Encountering a military commander — The lava flows — Rio San José — Covero — Laguna — Approaching the Baptist missionary — Camp at the Puerco — Arriving at the Rio Grande — Crossing over the river.

#### Chapter Thirty-two.

Crossing the Rio Grande — Camp on the left bank — The American soldiers — The fandangos — The Doctor's fall — The Corpus Christi festival — Meeting an old acquaintance — Narration of experiences in Illinois and New Orleans — Winkel's history and plans for the future — Lieutenant Ives' return from Santa Fe — His instructions — Lieutenant Ives' departure for California — Final preparations for the journey through the prairie.

#### Chapter Thirty-three.

Departure from Albuquerque — Par force hunt of the Indians — Overnight camp in Algodones — Waiting in vain for the escort — Leaving the valley of the Rio Grande — Romero's Rancho — Santa Fe — Camp at Stone Coral and meeting there with the escort — Beautiful landscapes — The ruins of Pecos — Camp there — Separation from the escort — The California emigrants — The Pecos River — The town of San José — The valley of the Pecos — Ojo del Verde — The escort strayed toward Anton Chico — Camp in Las Vegas — The healing springs — The lake on the highlands — Arrival at the edge of the prairie and at Fort Union.

#### Chapter Thirty-four.

The encampment at Fort Union — Election of the train captain — Successful fishing — Arrival of the Missouri mail — Leroux's sons — Fort Union and its location — Departure from Fort Union — Narration of Ben Shaw's murder by the Apaches — Camp in Apache Canyon — Bad relationship between expedition and escort — Camp at Canadian River — Successful fishing — Journey through

prairie past Point of Rocks — Camp near White's massacre — Whetstone Creek — The emigrant train — The two pretty emigrants — Complete separation from the escort — Rabbit Ear Creek — Cottonwood Creek — MacNisse Creek — Cedar Creek — Camp at Coal Creek.

Chapter Thirty-five.

Arriving at the Cimarron River — Encountering travelers — Journey down the Cimarron — The suspected band of robbers — Arrival on the Arkansas River — The Indians there — Encountering the military command — The Fourth of July — Crossing the Arkansas — Ruins of Fort Mann — The first buffalo — Slaying it — Dry road and water road — Catching a stray horse — Coon Creek — Vegetation there — Travel to Walnut Creek — The barterers — Vinceni.

Chapter Thirty-six.

Arrive at Walnut Creek — The log cabin — Tamed buffalo — Buffalo herds — Camp at the mouth of Walnut Creek — Buffalo hunt — The night thunderstorm — Continuation of the journey — Buffalo hunts — Camp at Cow Creek — The swollen stream prevents further travel — The roller beetles — The mail arrives — The United States post office — The last buffalo hunt — Crossing Cow Creek.

Chapter Thirty-seven.

Peacock's story of Jarvis' murder — Camp at the Little Arkansas — Turkey Creek — Diamond Spring — The Neoscho — The town of Council Grove — The colonization system in the United States — Lawrence, Kansas — The Kansas [River] — Crossing the same — The detour — The cloudburst.

Chapter Thirty-eight.

Conclusion.

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## Personnel

Since this is an extract from a much fuller two volumes, several people are mentioned in this translation appeared first in Volume 1, but may be referred to in Volume 2 only by surnames.

Friedrich Wilhelm von <b>Eggloffstein</b>	German baron; cartographer and artist; participated in earlier expeditions in the West
<b>Ireteba</b>	Mohave Indian “sub-chief”; a principal guide for the Ives expedition, first known to Ives and Möllhausen at the end of A. W. Whipple expedition of 1853–1854; and in that the Mohaves did not recognize this name it is probably a corruption
Joseph Christmas <b>Ives</b>	Lieutenant, U.S. Army Corps of Topographical Engineers, in command of the expedition; with Möllhausen he also accompanied the Whipple expedition
Balduin <b>Möllhausen</b>	German adventurer; artist and assistant to John Strong Newberry; participated in earlier expeditions in the West
John Strong <b>Newberry</b>	Naturalist to the expedition, whose speciality was as a geologist; he also served as the expedition’s physician
George H. <b>Peacock</b>	A Missourian from California, master of the pack train; about whom little is known
John <b>Tipton</b>	Lieutenant, U.S. Army, 3rd Artillery, from Fort Yuma; in command of the military escort

Möllhausen also takes note of three other Indian guides, **Kolhokorao**, **Hamotamaque** and **Juckeye**, who seem not to be identified in Ives’ expedition record, at least by names such as these. As with Ireteba, their names are likely corrupted. Juckeye was a Yuma Indian who had accompanied the party all the way

from Fort Yuma. Möllhausen further mentions several “Wallpay” (Walapai, or Hualapai) Indians who joined the land expedition after they had reached Diamond Creek, but he gives no names for them. Ives refers to this tribe as the “Hualpais” in both the singular and plural. He also refers to Yuma Indians in his expedition account, but, other than Juckeye, without names.

Both Möllhausen and Ives also mention the Mohave chief, Cairook, who was first known to them during the Whipple expedition. Cairook appears again during Ives’ river expedition. He did not accompany them, but he did direct Ireteba to join the land expedition.

“Mariano” is mentioned in passing by Ives, who was a Yuma Indian interpreter that accompanied them during the expedition on the river. He did not accompany the land expedition. Möllhausen referred to him as “Mariando.”

In their texts, Möllhausen and Ives both make references to the surnames “Sitgreaves,” “Whipple,” and “Beale,” the commanders of earlier expeditions across the northern part of New Mexico Territory. They are extraneous to the events of this translation as well as to the Colorado River expedition overall, even though both writers took note of the pathways that were blazed by these earlier expeditions.

The expedition commanded by Lt. Lorenzo Sitgreaves in 1851 had meant to follow the Zuni and Little Colorado Rivers to the confluence of the Colorado, en route to the west coast, but by the time the party had reached the San Francisco Peaks men and animals were ailing, and on the advice of their guide they abandoned the route — and a good thing, too, inasmuch as they had no real appreciation for the impassable canyons that would have been on their track. That expedition continued across the 35th parallel route, reaching the Colorado River on its lower course below the canyons, then moved on to the west coast. “Sitgreaves Pass,” mentioned by Möllhausen and Ives, takes its name from that expedition; years later, iconic Route 66 would follow it through the Black Mountains.

The expedition commanded by Lt. Amiel Weeks Whipple in 1853–1854 was an exploratory venture along the 35th parallel. It was one of several government surveys sent out to investigate the best routes for a railroad to the Pacific coast. Whipple’s expedition explored the 35th parallel route for a track between Fort Smith, Arkansas, and Los Angeles, California; it eventually was followed by the Atlantic & Pacific Railroad and later by the Santa Fe Railway, which improved on it and even built a spur to the Grand Canyon.

The expedition commanded in 1857 by Edward Fitzgerald Beale, a former U.S. Navy lieutenant, was to establish the route of a wagon road across the 35th parallel, between Fort Smith and Los Angeles. This westbound expedition was also historical



for its having experimented with the use of camels. Much has been written about the preparation for and the execution of that mission. Incidentally, in his *Reisen* Möllhausen wrote of seeing the camels in California (in his Chapters 3 and 5), not long after Beale arrived there. In January 1858, Beale's party returned eastward with some of the camels, and at the Colorado River crossing, by an astonishing coincidence, Capt. George Alonso Johnson, with his Yuma-based steamboat *General Jesup*, was there to help convey them cross the river (the camels swam across). Coincidentally, coming up the river not far behind Johnson was Ives on his government exploration to ascertain the head of navigation on the Colorado. Johnson, though, had set out from Yuma ahead of Ives on his own, unofficial exploration to establish that point. Ives, in his journal, judiciously made no mention of Johnson's exploit, despite having encountered the larger steamboat on its journey back downriver and receiving intelligence from Johnson and military men who had accompanied him. Ives also ignored the fact that his party also saw a monument that Johnson had erected on shore even though the steamer captain had not in fact reached the true head of navigation. Möllhausen, on the other hand, did take note in his *Reisen* of the *General Jesup's* adventure, including its jump on Ives from Yuma and its misfortune of having sunk en route back to the fort. Möllhausen later painted the view at Beale's Crossing, embellished with a number of camels crossing the river, a detail that he himself of course had not witnessed.<sup>7</sup> The same scene, an engraving after Möllhausen's picture though not directly credited, is depicted—minus the camels—in Ives' figure 18 (his p. 74), "Beale's Pass."

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<sup>7</sup> This painting is in the Amon Carter Museum of American Art, Fort Worth, Texas, where it also is digitally shown online in its collection of Möllhausen's watercolors: <https://www.cartermuseum.org/collection/beales-crossing-beales-pass-1988124>.



**Travels into the Rocky Mountains of North America to the  
High Plateau of New Mexico, undertaken as a member of the  
Colorado Expedition on behalf of the United States Government**

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**The Land Expedition from the Colorado River to the Grand Canyon**

**March 23–April 15, 1858**

### Map of the Migration of Peoples in the Colorado Region

together with indication of the route of the Colorado Expedition for MÖLLHAUSEN'S  
"Travels Into the Rocky Mountains of North America".

### Karte der Völkerwanderung im Colorado-Gebiete

nebst Angabe der Route der Colorado-Expedition zu MÖLLHAUSEN'S „Reisen in die Felsengebirge Nord-Amerikas“.



- Colorado-Expedition.
- - - - - Muthmassliche Strassen der von Nordwesten eingewanderten Völker.
- ..... Muthmassliche Strassen der aus nördlicher Richtung eingewanderten Völker.
- Ruinen von indischen Städten.
- ▲ Bewohnte Pueblos.

Colorado Expedition.  
 Presumed paths of the peoples who migrated from the northwest.  
 Presumed paths of the peoples who migrated from the north.

Ruins of Indian cities.  
 Inhabited pueblos.

Map facing p. 144 of Volume 2 of Möllhausen's *Travels*, as part of Chapter 27 therein; adding translations for the caption and key, *here*. Although the map illustrates topics that are not a part of this translation of the land expedition to the Grand Canyon, it does delineate the general geography of the region as understood by Möllhausen.

## Chapter Twenty-one.

Departure of the land expedition. — The Indian guides. — Travel on the gravel plain. — Character of the same. — Night camp in the mountains. — Passage over the first mountain range. — Beale's Pass. — Rest day at the spring. — Excursion to the mountains. — Travel of the expedition through the wide valley. — Character of the same. — Camp in the second mountain range. — Formation of the same. — Transition over the same. — The second valley. — Camp on the edge of the same. — Lack of water and food. — Storm, rain and snow. — Rest day. — Narrating the oldest history of St. Louis.

On **March 23rd**<sup>8</sup> we began our land expedition on the left bank of the Colorado. We had left the merrily noisy bands of Mohave Indians and were scarcely three hundred paces from the river on the gravel plain on which we were following the path traveled by Lieutenant Beale and his camel expedition in a northeasterly direction. Our party consisted of Lieutenant Ives, Dr. Newberry, Herr von Egloffstein, Mr. Peacock, and myself, with two cooks, two servants, and six Mexican porters, under the command of Lieutenant Tipton, bringing our whole company to forty-five men. The number of mules was about a hundred and fifty head, of which about eighty carried our provisions, instruments, tents and other camp equipment, and if the animals had only been in better condition it would have been a small but sizeable expedition, which marched in a long line on the ascending plain.

My first feeling, notwithstanding the clumsiness with which my mule obeyed the bridle and spurs, was one of great ease; from now on we would be masters of our own

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<sup>8</sup> Möllhausen's insertion of dates in his narrative are shown in **bold** in this translation so as to enable them to be located more easily. Lt. J. C. Ives' "General Report" (1861), which also narrates the expedition, includes dates but only as recorded at the times when his diary entries were written, which thus do not perfectly correlate with Möllhausen's more precise chronology ([see in Appendix 2 herein](#)).



movements and no longer had to fear sandbars and hidden rocks. It is true that when we used to lead our starving beasts by the bridle to make their work easier, we were vividly reminded of “the [steamboat] Explorer's writhing over shallows,” but the thought of not being confined to definite quarters, as well as the healthy exercise caused us to keep an eye on only the bright side of our expedition, and were filled with such fresh courage as if we had just left home. Led by Ireteba and his comrades Kolhokorao, Hamotamaque and Juckeye, we got farther and farther from the Colorado; the natives generally seemed to harbor a certain distaste for the arid, rocky plain, for looking back I caught glimpses of the upper half of dark figures, eyes curiously following our movements, and behind them stretched, like a green field, the crowns of the cottonwood trees, almost entirely concealing the sunny mirror of the stream. Narrow columns of smoke marked our old camp, but far to the south dark specks, which seemed to be swirling out of the thicket, betrayed the movements of the little steamboat.

With measured steps we went, now over long stretches of the bank, covered like a mosaic with pebbles, now down into sandy and rocky gorges, which had gradually been formed by the violent fall of large masses of water; but higher and higher we rose as we approached the eastern range.

Even though we were in a real desert, there was still a lot to see and observe. The outlines of the jagged mountain ranges, but especially the Black Mountains, whose eastern extension we were moving towards, changed with every minute, and ever new, fantastic forms emerged from the tangled masses of rock. Variegated rocks of many kinds, but chiefly basalt, greenstone, multicolored porphyry, quartz, agate, jasper, cornelian, calcedony, and obsidian, covered the ground thickly, and among them dainty horned frogs and beautifully drawn lizards slipped about. The cacti also attracted our attention; not by vigorous growth, or by crowding together in groups, but by the various species which we had hitherto not noticed in the valley of the river; among these the shrubby, terribly well-armed *Opuntia bigelowii*, the broad-leaved, budded *Opuntia basilaris*, *O. erinacea*, and *Echinocactus polycephalus*. Both Dr. Newberry and I frequently stop to secure specimens for our collections, and on this occasion the Doctor experienced another accident, which might have had the most disastrous consequences for him, but fortunately only made him slightly unwell for the next few days. He was about to mount his animal when the latter, shying away

from the botanical folder, threw him to the ground in such a way that his foot got caught in the stirrup. The animal happened to run into mine, which I managed to stop after dragging the Doctor a few paces. I don't know which of us felt the greatest terror; it was a horrible sight for me, at any rate, to see my friend dangling in danger; and I had already raised my rifle as the only means of rescue, in order to prevent the treacherous mule from escaping, by means of a bullet through the head, when he [instead] ran against me.

We had gone about nine miles when we came to the broad but dry bed of a stream, and Ireteba reported to us that we should find water in the same. We therefore followed this natural path upwards, and after a short time found ourselves between volcanic rock masses, which rose up out of the plain now as round hills, now in the form of sugar loafs, and finally supplanted them entirely. Flowers and small patches of grass peeking out from under thorny mesquites indicated the moisture contained in the sandy soil, and when we had ridden two miles up the narrowing gorge we came upon, to our surprise, a row of stunted willows and cottonwoods. Ireteba pointed out to us the place where we should find water; there was a cavity in the ground, in which we still found some moisture, but which, when cleaned, yielded so much water that we not only had a sufficient supply for our own needs, but also half a bucket full for each of our animals the following morning. Shortly before evening, with great difficulty, I climbed the next hill, from where I was able to see the surroundings, and was astonished when I directed my gaze at chaotically fallen rock masses, which were not associated with a mountain range, but were a mountainous heap of rubble.

Above mighty heaps of volcanic rubble rose the forms of castles, ramparts, and long walls; some regular and vertical, as if to defy the millennia, others split and overhanging, as if the slightest shock might throw them down. The dark, black and reddish coloring of the rock emphasized the wild character of this rocky desert without vegetation, but the pure, magnificent evening sky arched over it; the distant mountain ranges swam in a hazy blue; the smoke of the fire lay before me in the ravine like a light mist, and the pale disc of the moon shone peacefully on this lifeless wilderness. I was soon back in camp with my companions; the evening was mild, and so we missed less the blazing pyres to which we had become accustomed in the valley of the Colorado, but for which the dry wood was wanting here. We sat, however, late

into the night in front of a little smoldering coal, and enjoyed the wonderful moonlight that played between rocks and cliffs. Our surroundings appeared dead and rigid during the day, but shrouded in darkness at night it was as if nature had fallen into the arms of a deep slumber; murmuring voices rang out in our ravine; on the slopes of the hills, on the hard rocks, the shoed hooves of the mules, searching for scanty food, clattered; the bells of the lead horses rang out in short cadences; but on two opposite hills the mounted Mexican guards stopped, lassos rested in hand, cigarettes smoldered, and in turn they sang out into the night in melodious, happy voices. They were inexhaustible in their songs, and sang of everything that belongs to the happiness of a Mexican; they praised the beautiful, glowing señoritas, the sparkling Californian wine, the magical effect of sounding guitars and tambourines, the awkward twists and turns in the wild fandango; but they also thought of the red gold and the southern palm trees, and it sounded mocking, as it were, when the echo between the bare rocks answered: “Gold and palm trees.”

As on the morning of **March 24th** it took several hours to water the flock, I used the time to imitate the birds, which came from far away to take their morning drink. I carefully spared as much as possible of the poor little animals, which, like me, rejoiced in the sunny morning, and only took what seemed to me of importance for my purposes. A lovely hummingbird<sup>9</sup> had strayed into this wilderness, and apart from this one I got a finch with a white crest<sup>10</sup>, along with several other species of finch<sup>11</sup>.

We left at last; ahead of us lay a mountain range, which stretched from north to south, and we therefore had to try to get across it at a suitable point in the immediate vicinity. Ireteba was at the head of our procession, and following him we rode about four miles further along the bed of the stream, where it ended in numerous fissures and steps eroded in the rock. The path, which led through deep sand and loose gravel, continued to climb steadily for this stretch, and the masses of volcanic rock crowded ever more confusingly around us. Scattered agaves and cacti adorned the black rocks, which consisted primarily of trachyte and lava-like basalt; on the sand in the ravine,

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<sup>9</sup> Möllhausen’s footnote: *Selasphorus costae*. [In the footnotes, the names of taxonomic genera and species are shown properly italicized in this translation; but they do not necessarily identify the names by which these animals and plants are scientifically known today. Möllhausen’s spellings and capitalizations are retained.]

<sup>10</sup> Möllhausen’s footnote: *Zonotrichia leucophrys*.

<sup>11</sup> Möllhausen’s footnote: *Pipilo Aberti*; *Peucaea Lincolnii*; *Carpodacus purpureus*.

on the other hand, I beheld the stunted shrubbery<sup>12</sup> that characterizes these desert regions.

As we rode along in the unappealing surroundings and gazed with a certain indifference over the arid stretches of sand and rigid rock formations, we were suddenly overwhelmed by the sight of luxuriantly blooming agaves, whose richly adorned clusters of flowers towered high above the stiff, sharply armed crown of leaves. The color of the large flowers was yellowish-brown, and they were so beautifully drawn they crowded around their common bearer in such abundance that one was vividly reminded of a well-arranged bouquet. We cut some of the splendid flowers, fastened them to our saddles, and feasted on them until the dying calyxes closed and the beautiful colors faded.

I have found this agave mentioned many times by travelers as the Indian maguei<sup>13</sup>, and particularly in the descriptions of the mountain Indians of New Mexico, to whom this plant furnishes the main food; but I looked in vain for a scientific name attached to them. The maguei of New Mexico is, of course, a species of the *Agave Americana*, and is largely mistakenly confused with it, from the outward resemblance being accompanied by the same nutritive property; but on close comparison there will undoubtedly be a difference between the Mexican agave and the more northerly maguei, a difference which struck me on cursory observation on the spot, and which I note in “Dr. Bigelow's botanical report, in Pacific railroad report vol. IV. pag. 9” confirms this.<sup>14</sup>

We finally got to where the winding path led up the steep slopes of the black ridge, and where our weary beasts could only with the greatest effort bear their heavy burdens. The riders all dismounted, but the narrow path, which often led to deep abysses, was so difficult that we often had to stop to catch our breath. After laborious work we at last reached the divide of this mountain range, and there opened before us a broad view of part of the country stretching on either side of the crest. We were about 2,500 feet above the level of the Colorado, whose course we could still distinguish in the misty distance.

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<sup>12</sup> Möllhausen's footnote: *Dalea spinosa*; *Larrea Mexicana*; *Obione canescens* and a few mesquite trees, *Algarobia glandulosa* and *Strombocarpa pubescens*.

<sup>13</sup> This refers to the Spanish *maguey*, encompassing various species of *Agave*.

<sup>14</sup> [See Möllhausen's endnote 1.](#)



Before us a wild gorge, gradually widening, led downwards again, opening at a distance of six miles into a wide valley, which sloped down in the middle to form a basin, and the eastern end of this valley was bounded by a chain of mountains that was similar to the one we stopped at.

The view expressed by Lieutenant Ives at that time that we were in the pass discovered by Captain Sitgreaves in 1851, I cannot, after comparison with Captain Sitgreaves' report, subscribe to. It is true that before us lay a plain corresponding generally to that described by Captain Sitgreaves, but the western slopes of the ranges through which the pass went through did not reach immediately to the banks of the Colorado, as is expressly remarked in that report. I am inclined, therefore, to believe that we were to the north, if only a short distance, of Sitgreaves' Pass, and therefore think the term "Beale's Pass" more appropriate, as we were traveling in the path traveled by Lieutenant Beale. To what extent this mountain range can be regarded as connected with the Cerbat Mountains described in Whipple's report ("Pacific railroad report III. geolog. report pag. 51") I dare not decide, at least I think I can claim that it belongs to the system of the same,<sup>15</sup> and an imaginary southern extension of it would either meet the northern extremity of the Cerbat mountain range, or, which seems to me more probable, would extend westward but parallel with it. The direction of most of the mountain ranges between the Bill Williams mountains and the Colorado differs very little, and can be said to run "north to south."

At first the descent into the gorge involved considerable difficulties, but soon our way became relatively easy, and riding along the edge of a dry stream we remained constantly surrounded by picturesque rocky scenery, where numerous dark green cedar bushes gave a peculiar charm. The black masses of trachyte and basalt fell behind us, beautiful walls of red and white porphyry took their place, but these too were supplanted by other formations as we descended further, and bare rocky mounds, covered with volcanic debris, rose at last from all sides. We had covered seven miles in all when, at a bend in the gorge, Ireteba drew our attention to a spring which trickled out of the ground in a strong, crystal-clear stream. There was some grass nearby; we had therefore found the most necessary things for our herd, and, although still early in the day, that spot was chosen for camp.

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<sup>15</sup> [See Möllhausen's endnote 2.](#)

It was a lovely spot; shady shrubbery surrounded our tents, the water murmured audibly over smooth-washed pebbles, awakening frogs tested their hoarse voices, and the singing of birds filled the air, which in the mountain basin was warmed most pleasantly by the rays of the sun and soon by the heated rock. It is only in want that one learns to appreciate the value of the smallest gifts that nature generously bestows on us; so also here; after the camp order had been established, we slowly dragged ourselves in the shade, and were content with ourselves and with the whole world.

Although the spring broke from the rocky ground as a small stream, it only watered the valley-like extension of the ravine for a short distance, for at a distance of five hundred paces the last drops dried up in the thirsty sand, and the bed of the stream descended as a dusty road towards the eastern plain.

Low scrub covered the banks of the spring, and under it the little partridges had their hidden paths, along which, sheltered from the attacks of the hawks, they hastened up and down the water. When twilight fell into our gorge, the nearby bushes were enlivened a thousandfold by these dainty birds, which, returning from the mountains, found their peaceful valley occupied by strangers, and showed their unrest about it by anxious calling far into the night.

The **twenty-fifth of March** [a Sunday] was appointed by [higher] power, and I may well say that a day of rest was as welcome to us as it was to the livestock. The guides also agreed to the stay, mainly because it would give them an opportunity to visit some of the Apache families lower down in the mountains and to collect intelligence on the neighboring lands. The weather was clear and very warm, and early in the morning I therefore went on a short hunting excursion into the nearby gorges. I found myself disappointed in my hopes of encountering game, for no matter how far I roamed I discovered neither the tracks of deer nor bear, and it was only on my return to camp that I managed to find some interesting specimens for my collection as well as some partridges to add to our kitchen.<sup>16</sup> I also observed several pigeon hawks<sup>17</sup>, but I did not succeed in killing one of these shy animals. I also collect some lizards<sup>18</sup>

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<sup>16</sup> Möllhausen's footnote: The latter were *Callipepla Californica*, and among the first were a fence slipper (*Troglodites obsoletus*), a lark (*Alauda alpestris*), a canyon finch (*Pipilo fusca*) and a greenfinch (*Zonotrichi leucophry*).

<sup>17</sup> Möllhausen's footnote: *Hypotriorchis columbarius*.

<sup>18</sup> Möllhausen's footnote: *Homalosaurus ventralis*.

and frogs<sup>19</sup> as well as a tiny but gorgeous red, black, and white ringed snake known in western America as the Kingsnake. Meanwhile Dr. Newberry had been busy hammering around among the rocks and, in addition to the rock specimens mentioned above, showed me individual fragments of calcedony and agate in the most beautiful colors.

Our Indians came back to us towards evening, and there was nothing to prevent an early departure on **March 26th**. We left the friendly spring and soon reached the broad valley, passing between hills of trachyte, trap, porphyry and conglomerate. On the edge of it we left the tracks left behind by Beale's expedition and took a more northerly direction, which, according to Ireteba, should lead us toward evening to a spring in the mountains opposite. The valley through which we traversed acquired an extremely wasted and desolate character from the almost complete lack of vegetation. The soil was mostly loamy and firm, and only on the eastern half was it interspersed with sandy streaks. The breadth of the whole plain was about twelve miles, but from the clear atmosphere and the subsidence of the ground toward the center, the distance was apt to be taken as scarcely half that. The drop from the very base of the mountains to the middle of the valley was about eight hundred feet, and at first we thought we had before us one of the many closed basins in which the territories from northwest New Mexico to the Southern Sea are so abundant.<sup>20</sup> To the south and north the horizon bounded the plain, and only a few mountain peaks, which emerged separately from it, betrayed distant mountain ranges. In the middle of the valley we came upon a dry river-bed, and with some difficulty we could see that the same water had at times flowed northward. The large surface area, which we could easily survey from any point on the plain, afforded a peculiar sight; everything was dead and rigid, not the slightest life showed in the desolate valley; although we saw one of his columns of smoke at the foot of the opposite mountains, this too disappeared after the keen eyes of the shy mountain dwellers who lived there discovered us, and nothing more interrupted the frightening solitude of our surroundings. Hour after hour passed; the jagged masses of mountains seemed to be moving eastward close in front of us, keeping pace with us, and evening was not far off when we finally reached a

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<sup>19</sup> Möllhausen's footnote: *Phrynosoma planiceps* and *Anota McCallii*.

<sup>20</sup> In Möllhausen's *Reisen*, all references to "New Mexico" are of course to New Mexico Territory, prior to its division to include the later establishment of Arizona and a small portion of southern Nevada. The "Southern Sea" is a common contemporary term referring to the Pacific Ocean.

wide ravine which led deep into the mountains. After a day's march of eighteen miles we finally found, in a hidden corner, the well promised by our guides, at which we intended to spend the night. Incidentally, we were not the only whites who had camped there, for we saw there the most unmistakable signs that Lieutenant Beale had also visited that spot with his camels. The animals had to laboriously gather their meager grass, which was scattered in tufts between volcanic debris on the slopes of the mountains. They did not get to the water without difficulty either, and this was the reason why our departure on **March 27th** was somewhat delayed. The surroundings there, by the way, were not without interest for us, to whom the rocky mountains, which tangled and crowded together, appeared as plateaus separated from each other by gorges and crevasses. Mighty blocks of granite lay about in the ravines, or partly jutted out of the ground and at the foot of the mountains, but the undisturbed flat-topped rocks, which rose there scarcely four or six hundred feet above their bases, were composed of durable strata of red sandstone and conglomerate, which were covered by a layer of basalt, a formation that I had in mind [earlier in the narrative] when describing the mouth of Bill Williams fork.<sup>21</sup> Leaving the narrow ravine, we were favored by a path that would have been suitable even for wagons. It led uninterruptedly between masses of rock of the type just described, and from these we could clearly perceive the degree to which we were climbing, because we were getting closer and closer to the basalt layer, the column-like like masonry of which is regular but fantastically eroded on the sides where layers of sandstone rested. We finally reached the crest, and turning out at a suitable place after the basalt stratum, we gained a view of the east side of the second ridge, which now separated us from the Colorado. The height to which we had attained (nearly 3000 feet) was by no means so even and level as I had expected to find; indeed, when one looked beyond the gorges, wide areas appeared as undulating ridges, but many trachytic crests rose above them, which lined up in a northerly direction to form a mountain range. To the east we again had before us a valley similar in extent and character to the one just described. Its direction was also from north to south, and in the south the plain blurred with the horizon, while to the north a blue, low range of mountains formed the boundary. On the east side of the valley, at a distance of about fourteen miles, parallel with the mountains which we had just crossed, stretched another ridge, its

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<sup>21</sup> [See Möllhausen's endnote 3.](#)

crests in freshly fallen snow, and its slopes and ravines resplendently adorned with dark green firs and cedars. At the sight of these ranges I was vividly reminded of the Aquarius Mountains and the Cactus Pass [seen during the Whipple expedition], but I convinced myself a few days later that the next range was the one which I crossed in 1853, and at the foot of which, to the south, was the Bill Williams fork. To travel through the valley that day did not seem advisable to us, so we left Beale's tracks, turned north, and kept at a short distance from the rugged mountains, or, for the better part of the way, at the edge of the valley, which Ireteba promised would lead us to a hidden mountain spring. It struck me as striking that the ground, of which I could not doubt its capacity for cultivating, was so sparsely covered with grass and plant vegetation, and I can only explain this by the want of rain in those latitudes. Added to this is the circumstance that all the moisture that settles there is lost on the valley floor, which drops sharply towards the middle, and, without leaving any significant traces behind, flows towards the lowlands, which silts up and escapes in the numerous beds of old streams into the [sparsely vegetated] desert. Here, too, we missed almost every living thing, and we even looked in vain for traces of game. Only the big hare<sup>22</sup> seemed to feel at home here, for several of these sleepy animals were frightened out from under dried shrubs by the hooves of the mules. We were fortunate enough to land several of these, which made a most welcome addition to our salt-pork.

The clear sky which had cheered us in the early hours clouded towards the middle of the day, a harsh northwest wind sprang up, and the comfortable temperature which had prevailed for so long quickly turned into a painful chill. Ireteba and his two Mohave boys walked at some distance in front of the long train, the animals began to tire, the people longed for the camp and directed their eyes to the reliable guide, who carefree but also undeterred followed the chosen direction. We hoped to see Ireteba turn into every ravine that he led us past, but although they were so alike that one could only distinguish them from one another on close inspection, the Indian scarcely turned his eyes towards them and only toward evening did he begin to examine the mountains more closely with his eyes, sometimes standing still to direct his eyes closely on the openings between them. But our faithful Ireteba was sure of his cause, for before it began to get dark we found ourselves in a sandy, valley-like

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<sup>22</sup> Möllhausen's footnote: *Lepus artemisiae*.



widening of a gorge, and following it two miles up we reached its end and at the same time the hidden spring.

We immediately began to organize the camp, which was not without difficulty between the low, stunted mesquite trees and the tallowbushes, and then, for safety's sake, we roamed the immediate vicinity. We were convinced by a glance that the animals there were again suffering from a lack of food; but not only that, even after the small, natural rock pool had been cleaned up, the water did not reach much further than to satisfy the needs of the people. So we had before our eyes the sad spectacle of how the scattered animals, searching on the slopes of the rocks, climbed about, cooled their dry tongues on the rocks and mechanically gnawed at the withered shrubbery. I went well out of the way of the herd, so as not to see the pleading, as it were reproachful, looks which the poor animals cast on anyone who approached them. Often one or more would separate from the herd and come straight to the camp, where they would look about sadly and stretch out their heads to the filled sacks of flour and corn, but instead of the morsel they asked for, they were scolded and herded with blows back toward their fellow sufferers.

Two old tracks of shod horses, which we discovered on the muddy patches in that corner, attracted our attention, the more so because the animals from which they came appeared to have been ridden by white men. The tracks were still too well preserved for us to attribute them unconditionally to some departing members of Lieutenant Beale's expedition, which had passed there six months earlier, and the area was again not attractive enough for trappers. Continuing our investigations, we also came upon a small hut, which belonged to one of the many offshoots of the Apache Indians. It was so small that it could be taken for the storage of food rather than for human shelter. Built very solidly in an oven-shape of poles and shrubbery, and covered with a thick layer of sand, it was about four feet in diameter, but scarcely three feet in height. The fact that the hut was near a large gully made me think that I might be looking at the simple contraption for a steam bath, which, of course, is only available in wet seasons and after heavy downpours when the water in the mountains unites into foaming streams and could be used by the natives of the area.

The night was cold and stormy, rain beat on the taut tent walls, and when we went outside in the morning, we were surprised to see the whole landscape wrapped in a light blanket of snow. The sky was heavy, snowflakes whirled in the murky air,

and, together with the rain, drenched all that could not be brought under an artificial shelter. In light of the visible hardship which our animals suffered, we stayed where we were. Not that we ourselves or our people were too sensitive to the weather, but old experience has taught that a horse or mule, with the pack-saddle and heavy load placed on its rain-soaked back, is liable to be rendered useless as the skin is then rubbed through very quickly, and these wounds usually become malignantly inflamed. The dry-packed animal, which marches all day long in the rain and whose back skin is drenched with sweat, is far less subject to this ailment. As little consideration is given to such experiences in ordinary life, it is different with expeditions, the livelihood of which depends, so to speak, on the condition of the animals, and with a certain piety one does not ignore even the most inconspicuous precautionary measures in order to avoid greater harm. With the lack of dry firewood it was not an easy task for us to bring up a tolerable temperature in the tents, but the thought of our own inconveniences was suppressed by the sight of the poor mules, which, with their snow-covered backs to the weather and shivering with cold, stood about the slopes of nearby rocky hills, occasionally licking at the freshly fallen snow.

So, after we had finished our morning meal, we wrapped ourselves in our blankets again, and while rain and melting snow rattled the walls of the tent in a soporific manner, we found ourselves in a mood not altogether unlike that of prisoners. We tried to sleep, we smoked, and it was a long time before we struck up a conversation to which we all more or less gave our attention. — We spoke first of the comforts afforded by a well-appointed inn in inclement weather, and passed on to the western settlements, and to the rapid rise of towns favored by their location. Gradually we became acquainted with the history of the cosmopolitan city of St. Louis, near the mouth of the Missouri, and learned some interesting information from Peacock, a former resident of the State of Missouri, as well as from Egloffstein, who had lived in St. Louis for several years in that place. — If you are inclined to give your imagination some scope, it will not be difficult for you to come to our tent in your thoughts; a brazier stands between us; the same has a double purpose, it warms the air in the narrow space, and then we also light the indispensable eternal little pipe in it; the smoke doesn't stop us, nor do the drops of water that sweat through the damaged areas of the tent canvas and sometimes fall on our heads, and while it's storming,

raining and snowing outside, I'll tell you something about the history of the cosmopolitan city of St. Louis.

*[The remainder of the chapter, pp. 17–24 in the original volume, is printed within quotation marks and comprises a narrative of the history and development of St. Louis, and of the West in general. Being a fireside tale extraneous to the expedition narrative, it is omitted in this translation.]*

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## Chapter Twenty-two.

Journey through the second valley. — Water shortage. — View of the Aquarius Mountains. — Warehouse at Wallpay spring. — Social intercourse with the leaders. — The rest day. — The first antelope. — The two Wallpays. — Departure from the spring. — The plateau. — Music Mountains. — The Wallpay guide. — Descending into the Wallpay Canyon. — Camp in the same. — Warm spring. — View of the gorge. — Visit to the Wallpays. — Travel down Wallpay Canyon. — The magnificent rock formations. — The natives in the ravine. — The difficult way. — Arrival at Diamond Creek.

The unfavorable weather, which had kept us in the tents for the greater part of the day, finally abated in the afternoon hours, the clouds pulled apart and, lounging sluggishly around the crests of the mountains or hanging heavily over the snow-covered valley, they let peek through a tiny bit of beautiful blue sky every now and then. It was still cold, but the refreshed atmosphere invited outdoor exercise, and we would doubly gladly have accepted such an invitation if the muddy, rapidly melting snow had not been at odds with our defective shoes. We therefore limited ourselves to opening a small target shooting session with rifles and revolvers, and I can hardly say now what I felt more joy about, whether it was about one of the masterly shots, or about the echo that answered every bang, booming all around.

When it began to get dark, the snow had already disappeared again, except for small accumulations in the corners, and we saw with joy that drop after drop ran down from the black rock. In our hope of seeing the small rock basin filled with snow and rainwater the following morning, we found ourselves disappointed, for the sparsely trickling moisture had already been absorbed by the cracks and crevices in



the porous rock, and the supply from the spring was increased only a little. It reached, however, so far that half a bucket of the cloudy, foul-tasting water could be given to each animal, and somewhat refreshed by this, as well as by the calm, we began our onward journey on **March 29th**.

It was a clear, beautiful morning; the snow had given way completely to the warmer atmosphere, and only the heights of the mountains still partially shimmered with a white hue, brilliantly illuminated by the morning sun. We soon reached the brink of the valley, and riding around a jutting ridge of hills, we had before us again one of those marches which are so tiring because one has the goal in sight, but is so easily deceived as to the actual distance by the lay of the ground. On Ireteba's advice we turned northwest through the valley, which must bring us to the north end of a short range of mountains, about fifteen miles long. This chain of mountains ran parallel to all the others, that is, from north to south, and avoiding the more difficult route over it, we tried to approach the more prominent mountain range behind it by bypassing it.

The sun rose higher, and its rays struck us with more than agreeable warmth as we rode through the lower center of the basin-shaped valley; everything around was barren, desolate and empty, dead herbs and plants very sparsely covered the valley floor, and seldom did the imprint of the sharp nails of a wolf or a hare appear on it. Only the mirage tried to enliven the dead loneliness with her illusions, presenting us now with rippling water mirrors, now with the distant mountains seeming to be kneaded or stretched out into the strangest forms.

Toward noon we passed the edge of an extensive lake-bed; it was dry like its surroundings, and we were only able to distinguish the water lines to a large extent by the coloring of the soil and the thicker, but also dead, vegetation. Late in the afternoon we finally reached the base of the northernmost point of the short ridge; our road there again coincided with Beale's tracks, and following these we came, climbing sharply, round the mountain range and at the same time onto its the western slope.

As we were thus marching along Beale's road, squinting in vain for signs which would have told us the nearness of water, Ireteba left the head of the procession, and on approaching us he declared by easily understandable signs that he had not enough breath [confidence] to continue the expedition in a direction in which no water could

be found. Instead he pointed to the eastern mountain range and indicated that there was plenty of water for us and our animals. Further questions and explanations revealed that it was still about twelve miles away, and as we had already gone fifteen miles and the stricken animals seemed badly off, Lieutenant Ives, on Peacock's advice, resolved to spend the night just where we were, and then the next morning to saddle up at the earliest and hasten to the source. We had taken care of the water needs of the people by always having with us some casks filled with water, but there was nothing for our animals to refresh themselves. Luckily there was plenty of nutritious grass nearby, and thither the herd was driven, but their thirst was too great for the good pasture to be of any great benefit.

After the order of the camp had been established, some of the Mexicans were sent into the mountains to search for hidden springs, or for snow-water left behind in the hollows of the rocks. Also, Dr. Newberry, Egloffstein, and I shared in this task, but of course keeping an eye on our related work, for while Egloffstein was struggling with his charts to climb a steep crag, from which he surveyed an extensive landscape, I went in the company of the doctor into a gorge and soon got deep into the mountains. For a long time I followed the fresh tracks of a wild cat, but recognizing this hunt as fruitless, I climbed together with the doctor on the rocky slopes, where there was now a ruffled cedar, now a beautiful fir tree,<sup>23</sup> now picturesque masses of rock lying one on top of the other, which, partly trap-, partly granite-formations, were to be admired. In the gullies we often discovered fine, black sand, which reminded us vividly of similar sand in California, in the vicinity of which the gold diggers usually search in vain for the precious metal.

Our hike gradually brought us up the hill; it was just before sunset when we got there, and the sight of a magnificent, wide panorama in the most beautiful light was worth the trouble of the arduous climb. We stood on the crest of the northernmost mountain, and so nothing prevented the view of the gently sloping plain, bounded far to the north by blue mountain ranges, whose graceful lines picturesquely interrupted the monotony of the vast expanse. Our eyes only lingered for a short time on the western mountain range, the foot of which we only left in the morning, but we looked all the longer at the eastern mountain range, which stretched from north to south as far as the eye could see, and through which our path was initially to lead. It appeared

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<sup>23</sup> Möllhausen's footnote: *Pinus Frémontii*.

like a crumbling plateau, and since we were almost level with it, we were able to see deep into the cedar- and fir-wooded gorges that formed the transition, as it were, from the valley bottoms to the highlands. A narrow valley, in which the tortuous bed of a brook was clearly discernible, wound between the two mountain ranges to the south, and its character encouraged me to believe that I was on one of the ridges of the Cerbat Mountains, the Aquarius chain of mountains ahead of me, an arm of the Big Sandy [river] meandering to the Bill Williams fork far below me, and Cactus Pass not too far south of that point.<sup>24</sup>

We returned to camp; the Mexicans who had been sent out also returned one after the other, but not one had been lucky enough to find enough water to water a single mule. Preparing, therefore, for an early start, we very soon went to bed.

The unevenness of the ground, which magnified the ridges, compelled us to pursue our way on the slopes of the mountains, and only after having covered a few miles did we come to the dry bed of the brook that divided the valley in two halves. Here I was easily convinced that the water that collects there at times does not flow south, as I suspected from the heights on the previous day, but joins the above-mentioned lake in the opposite direction.

This fact caused me some doubt as to whether we really had the Aquarius Mountains before us, but as I rode up the dried-up brook I soon perceived that the valley was separated by a watershed, and that at a short distance from the point where the gorges joined to form a gully which descended towards the north, a second bed had arisen in the same way, the direction of which ran in the opposite direction. Only now did I think I should consider myself overconfident that we were only a day or two north of Cactus Pass.<sup>25</sup>

We stayed about six miles in the valley, which, in spite of the graceful alternation of rocks, hills, lowlands, and the gullies penetrating them, really resembled only a barren desert, and then turned into a broad, valley-like gorge, which seemed to offer

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<sup>24</sup> [See Möllhausen's endnote 4.](#)

<sup>25</sup> *Möllhausen's footnote*: The astronomical observations of Lieutenant Ives will later show how near to the truth are my conjectures, based on the recognition of the terrain I had traveled earlier, but farther south. These calculations can only come into my hands after their publication in the United States, but I shall not fail to include the corrections and comments relating thereto.

a pass cut to the east through the mountains. Dense groups of willow bushes and isolated green cottonwood trees marked a stream that was occasionally full of water, but our searches for remaining pools or puddles were unsuccessful, and we dragged ourselves mile after mile with our thirsty animals in the wild gorge, into which no cooling breeze found a way there, but the sun's rays with their scorching embers did.

From the earliest morning I had observed granite and trap alternately among the masses of rock which surrounded us on all sides; but here in this pass both formations seemed to be strictly separated from each other, for to our left mighty granite walls rose up, while on the other side trap and basalt piled high on one another. As we proceeded further, the massive masses of rock took on more the character of hills of weather-beaten rubble, and cedars, stunted but with fresh growth, more densely covered their crests.

We had ridden twelve miles when, in the northern corner of a small valley, we discovered the spring we were looking for, gushing out in a strong stream between blocks of granite. The same flowed as a small stream to the middle of the lowland, where it sank into the loose ground; between the rocks, on the other hand, it formed a deep basin, and we decided to pitch our camp near it. Already in the last mile the animals had scented the nearness of the water and hastened their steps, but when they saw the brook, there was no longer any question of holding back; they threw themselves upon it with abandon, as if they had been relieved of their burdens, and for the first time in four days they drank without their scanty refreshment being measured out to them, or without being shooed away entirely from it. But neither had we been able to wet or clean our dusty faces or hands with refreshing water for just as long, and just as the animals stood close together by the stream when we arrived, after everyone in the camp had made themselves at home they formed in front of the spring in the same way, groups of people never tiring of pouring whole buckets full of water over each other's heads and bodies. Others lay down in front of the spring to sip the wonderful, cool drink and that night began bathing and washing again, or they dipped their clothes, which were not currently in use, into the trickling brook and spread them out to dry in the sun, and calling such a procedure afterwards: "holding a grand wash."

Whoever in his life has never been without the most precious of all divine gifts, who has never endured the torments of persistent thirst and lost speech through

dryness of the tongue and palate, who has never observed these sufferings in his fellow men and animals without helping to be able to intervene, one cannot grasp what nature has given her creatures in this element. People who are accustomed to a life of plenty, yes, people who are to serve as teachers and examples to their fellows, fix their gazes on the table laden with wine and delicacies, and indulge in pious words of thanks for the beautiful, sweet gifts, without thinking about the water. But the so-called pagans in Africa's steppes, when they sink half faint before the saving spring, direct their gaze to the east, and before they dip their trembling, half-dried lips in the water, they murmur with a hoarse voice and devout heart: God is great!

As I now describe our arrival at the spring, everything that I felt at the sight of the crystal-clear water comes back to me clearly. Admittedly, the need had not yet reached its highest peak, but the joy and gratitude with which we greeted the spring was great, and may this be accepted as an excuse for dwelling so long on the description of circumstances, their mention censured by many, and perhaps rightly so, as superfluous and tiresome.

Although the waters of the spring sank a short distance away, there was no doubt that they took a subterranean course in the direction of Bill Williams fork, unrelated to the Yampay Creek, which flows into the Colorado Chiquito, that is, in the opposite direction. The rock basin I mentioned above was, by the way, only a natural reservoir, located at the foot of a step in the rock, and which received the water springing further above. Above the step was the meandering bed of a brook, which also held water only for a short distance and sent its overflow down into the rock pool. I suppose, then, that that spring is the continuation of a higher-lying brook, which, however, only fills up its bed in wet seasons, but slowly trickles under the surface of the ground during prolonged drought, and only comes to light where rocks inhibit the underground course. Even the faint trickles that visibly spurted out of the crevices in the granite rocks I believe to be water of the same brook, which forced its way into the broken rock and then sought a way out on the other side.

The evening found us in comfortable conversation with the Indians, with whom we learned to communicate better and better. Ireteba expressed the intention of returning from there to his native valley, and it required some persuasion on our part to make him waver in his resolve. This time it was more devotion on his part than the prospect of increased wages that made him give in to our wishes. But it was different



with his two Mohave companions and with the Yuma; for the three exuberant fellows seemed to have no taste for anything but tobacco, and if Ireteba had permitted it they would have traveled with us to the ends of the earth for such a thing. They were also popular with the whole expedition, and so it was not difficult for them to ask each individual member for some tobacco almost every day, or to have them pay for small services. They were satisfied with everything, even a piece the size of a pea they did not disdain, and as they always kept their store secret, but preferred to keep it together, and to do so by occasionally taking a few puffs from our pipes, they gradually and systematically possessed more tobacco than any of us had left. Only on the day of their farewell did they show us their treasures, jubilantly and triumphantly, knowing full well that it would never occur to anyone to envy their wealth, which they had painstakingly begged for.

Besides, since our departure from the Colorado, a considerable change had taken place in the appearance of our brown friends. They had left their homes as entirely undressed warriors, and now all more or less flaunted clothes which had been presented to them by one or the other of the expedition. The beautiful, regular figures naturally lost themselves in an adornment that was not used according to the rules of civilization but according to Indian taste, and the movements of the otherwise agile, well-formed limbs seemed comically stiff and forced. In most cases the clothes were too tight and too short for them, and it was often necessary to unpick the seams before a garment would fit the broad back. By the way, the harmless fellows did not take too much care of the suit, and once I even saw the arms and part of the upper body in a covering originally intended for the legs.

Oddly disfigured as our guides appeared, their frank, cheerful, and good-natured faces remained unchanged, and these years were distinguished by a courtesy and helpfulness which is too often lacking in the white populace. If we, e.g. B. [Balduin], intended to undertake excursions into the high mountains on rest days, and wished to be accompanied for this purpose, our Indians were always ready at the first sign to join any one of us, and undeterred during the day by their bare feet in climbing sharp rocks and by thorns. But even in the camp they knew how to make themselves useful; they brought wood and water, not only for our two cooks, but also for the soldiers and Mexicans, and they seemed to feel at home at every fire and in every company; everywhere they were given food in abundance, and never in vain did they address

the word “smoke” [written in English] to anyone who held the burning clay pipe between his teeth. These Indians, who had only in recent years acquired an idea of tobacco-smoking during their more casual intercourse with the whites, seemed not at all subject to the effect which the burning, narcotic herb exerts on those who were just beginning to indulge in the uncommendable habit. Quite unlike all other American native smokers, they inhale the blue vapor into their lungs, and then after a time emit it in clouds, showing no lack of signs of the greatest comfort and lust. I even saw children as young as eight eagerly seize the pipe handed to them and devour the tobacco vapor with a kind of ravenous hunger.

Due to the condition of our herd, it was decided to remain at the spring on **March 31st**. It was again a clear, very warm day, and some of our people, lured by the wild surroundings, set out early in the morning to search for game in the intersecting gorges. As Egloffstein had already won Ireteba for his companion, I chose the trusty Hamotamaque as my companion, and climbed the high country in a southerly direction, where I expected to meet antelopes. However, I found my hopes disappointed; though I saw fresh tracks of larger game, my prey was limited to small birds, which I included in my collection, among these a lark-hawk<sup>26</sup>, a species of wagtail<sup>27</sup>, and a finch<sup>28</sup>. I also received some amphibians with the help of my companion, and I was particularly interested in some gray frogs that were sitting around in the rock crevices near the spring, and by broken croaks gave away their hiding places.

On returning to camp, I arrived almost at the same time as one of the soldiers, who had succeeded in killing an antelope, which he then brought in by mule. It was a fine specimen of the *Antilocapra Americana*, of which Professor Baird in Washington now shows two different species, which were otherwise thought to be only one.<sup>29</sup> The beast was cut up and shared, and yet there was enough meat for two small meals to be obtained for the whole expedition. It was a kind of feast, which we enjoyed, for although the country is not poor in game, a stag or an antelope is comparatively very seldom taken on such expeditions. The noise with which a large train travels may well be given as the reason for it, and in those wildernesses it is not always advisable for

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<sup>26</sup> Möllhausen’s footnote: *Tinunculus spaverius*.

<sup>27</sup> Möllhausen’s footnote: *Culicivora plumbea*.

<sup>28</sup> Möllhausen’s footnote: *Pipilo Oregonus*.

<sup>29</sup> [See Möllhausen’s endnote 5.](#)

an individual to go too far chasing it, for one thing the danger of getting lost has to be considered but then also because the natives lie in wait for every opportunity to ambush and kill departing hunters for their clothing and water.

Towards evening, as we were lying leisurely in front of the tents, the loud, grating voices of some Indians suddenly came over to us from a distant height. They evidently addressed questions to our guides, who answered in like manner, and at the same time bade the strangers come down to our camp, which, to the no small amusement of the Mohaves, they refused for fear of the white men. As the mountain Indians there must have had an intimate knowledge of the country, a knowledge which might be of the greatest importance to our expedition, we urged our guides to fetch some of these savages. Immediately Ireteba and Hamotamaque went on their way, and it wasn't a quarter of an hour before they were up there with the local mountain people. We watched the company through a telescope, and were amazed at the great difference in appearance of these members from neighboring tribes. The strange Indians looked like gaunt, prematurely aged children to our burly Mohaves, and by the movements of the whole group we could tell that Ireteba was trying hard to explain how safe a visit to the camp was, and that no one would believe him. After much argument, at last two of them resolved to follow our guides, while three or four remained to learn the fate to which the two, in their opinion certainly bold, companions were meeting.

With an indescribable expression of comic contempt, Ireteba introduced the strangers to us as Wallpay or Huallepay Indians, while Hamotamaque, Kolhokorao, and Juckeye apparently amused themselves at the expense of the two small, embarrassed, and frightened characters. They were a young man and an old man, and such unclean-looking fellows as can be found in the mountain wilderness. Their clothing consisted of a buckskin hunting shirt and the same kind of half-boots, which, often torn and in places poorly patched, testified to a very long service. Their figures were below average height, but of regular build, and the muscles of the legs in particular were unusually prominent. Their features were definitely of the Indian type, and the expression of distrust in their shy looks was unmistakable. The younger of the two, a lad of about eighteen, after persuading himself that none of us had meant him ill, very soon recovered his composure, and was even willing to accompany us as a guide on the further journey, but even Ireteba could not persuade him to stay with us in the camp the first night.

As night fell the Wallpays departed, and we thought there was ample reason to rouse the guards to be vigilant, for notwithstanding the bounty these savages had received, they would have seized an opportune moment to drive some of our beasts into the nearby gorges, or to shoot for their meat.

We tried our best to collect a dictionary of the Wallpay tribe, but Ireteba, who understood our intention, explained to us that the Wallpay language is also that of the Mohaves, and he thought he could not prove it any better than that he repeated individual Mohave words that we already knew, and then passed them on with Wallpay designations. Although the test to which we subjected the Wallpays gave the same result, I am not entirely convinced that tribes, so diverse in their appearance as in their manners and customs, are scarcely distinguished in their language by one separate difference in dialect.

The good reception which the strangers found with us on the previous day brought several of this tribe to our camp in the early morning of **April 1st**. We were already busy getting ready to leave, but this did not prevent me from turning my attention to the newcomers who were crouching shyly on the ground near us. They were exactly like our first Wallpay acquaintances in shape and ungainliness, except that some looked even more disgusting and off-putting. I saw an old man whose form, dried to a skeleton, bore little resemblance to a human being; thick folds of barklike skin encircled thin bones and comparatively strong joints; the unsteady, sparkling eyes lay deeply hidden behind wrinkled lids; shaggy hair encircled the scrawny skull, and single black bristles sprouted from the broad upper lip and pointed chin. At the sight of this man one was involuntarily reminded of toads, and I can well say that among the natives of North America I never saw a man who inspired in me more disgust and consequently more regret than this living Wallpay skeleton, who armed with bow and arrows, and with the lustful greed of a hungry wolf fixed his eyes on the mules, which were being loaded with the baggage one by one.

At last we left the spring, and, guided by Ireteba, who, together with the young Wallpay boy who had promised to lead us to the Colorado, we entered a ravine formed by masses of trap rock. The same opened onto a wide, undulating plain, which was covered with sparse cedar forests. We were there about 4000 feet above sea level, and close to 3000 feet above the Colorado. Our first task was to find this river, which at that latitude (36°-37°) describes a wide arc in the east, and to get to know

the character of the country that it cuts through there, and we therefore directed our steps towards the north.

Although we had already reached a considerable height, we still saw, chiefly in an easterly direction, the plateau-like remains of a tableland, which in earlier times had undoubtedly covered that plain entirely. These remains rose about a thousand feet above their base, and consisted of numerous horizontal strata of solid rock and more pliable masses of earth. Unfortunately we did not get close enough to get an accurate knowledge of their character; we therefore named them after their outward appearance, namely Music Mountains. Because on the slopes the layers of earth were covered with cedar bushes, but the layers of rock were bare, and these parallel lines were repeated at remarkably regular intervals, a striking resemblance to sheet music was readily produced on the rugged slopes, which increased in proportion as we moved away from them.

By noon the direction we had taken cut through the highlands, breaking the monotony of the surroundings in a way pleasing to the eye. Low firs and curled cedars broadly marked the swells and depressions of the ground, and if we happened to be in the extended line of a main ravine it was as if we had been permitted a glimpse into the bowels of the earth, for the rocky side walls descended lower and lower until in the distance they blurred chaotically into one another in a violet swirl of mist.

To the edge of the plain our five Indians had collectively pointed out the direction of the way, but as we descended into the first ravine, which sloped sharply toward the northwest, the little Wallpay hastened nimbly ahead a short distance, in search of natives' tracks left on the gravelly ground. I watched the boy attentively and had no doubt that he was following a path he didn't recognize, because he often walked along for a long time without looking to the left or right, often stopping and examining his surroundings very carefully with his eyes, demanding the young Mohaves to examine the ground in different directions, or else trotted busily to and fro himself, like a bloodhound losing the leading scent. Our guide may have strayed from the path many times, but he always found it again, and we gradually got to where it was more used and therefore pointed to the vicinity of the natives' hiding places. Unexpectedly we found this craggy wilderness abounding with deer, but we dared not venture hunting in the labyrinth of ravines, and it was not without difficulty that our animals kept pace with the light-footed natives on the steeply descending path. We had traveled sixteen



miles since early morning, and, descending the last part of this journey, had covered a difference in altitude of fifteen hundred feet. During this period we were almost continuously surrounded by mighty hills of *Kohlenkalk*,<sup>30</sup> forming, as it were, the prominent overlying layer of the extensive highlands, which sloped somewhat toward the northwest.

Toward evening we reached a clear but lukewarm spring, which, surrounded by canes and reeds, afforded an unusually comfortable place to rest for the night. The water rushed like a small brook a few hundred paces into the ravine, where it sank into the sand, but looking in the direction of it I saw some cottonwood trees<sup>31</sup> and stunted oaks<sup>32</sup>, which testified to its renewed emergence. The traces of a small corn plantation were visible on the soil fertilized by the spring, and I could scarcely believe my eyes when I discovered a peach tree, lonely at the foot of a nearby hill, watered by the irrigated soil. We have often speculated as to the manner in which the peach stone from which the sapling had germinated had found its way into these secluded regions, and assumed that it was brought there by the Apache Indians from the Rio Grande, and unintentionally, by chance, had been planted.

Ahead of us, at a distance of about a mile, the ravine was narrowed by high vertical cliffs, showing the same regular horizontal strata and relationships which I have mentioned in describing the Music Mountains. The actual opening of the mysterious canyon, into which our way was to lead on the following day, was still hidden by a few projecting hills, and so I climbed the next height in order to secure a sketch of this very interesting point from there. — A tangle of regular and irregular lines, but the former in the majority, crowded together in a strange and at the same time beautiful picture. The shattered plateaus pushed past one another like mighty ramparts with vertical walls, their almost horizontally lined slopes shimmered in bright colors, and darker shadows betrayed the places where it went deep into the bosom of the earth. Cedar bushes adorned the undulating hills all around, but behind these the bare rock rose in the most magnificent formations and, caused by the different distances, in the most delicate and ever more blurred shades. Hushed silence reigned in this desolate but beautiful wilderness, but to the attentive one it spoke out of dead

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<sup>30</sup> Möllhausen's footnote: Carboniferus [sic] limestone. [Footnote printed in English, thus.]

<sup>31</sup> Möllhausen's footnote: *Populus monilifera*.

<sup>32</sup> Möllhausen's footnote: *Quercus agrifolia*.

rock like green cedars and germinating stalks in an easily understandable way: “Nature is sublime in all its forms!”

I descended again to the spring and chose the nearest direction for my way, which happened to lead down a steep slope; the stony earth gave way under my feet, and mingled with the weathered debris of limestone, fragments of sandstone, marble, soft slate-like rocks, and further below, granite and quartz rolled down before me.

The sky had gradually wrapped itself in a thick veil of rain clouds, so that we began to secure our tents against any falling water; but with the darkness, which descended pitch-black into the gorges, a strong wind also set in, the original direction of which we, being protected from all sides, could not guess, but which guarded against the precipitation. We were about to retreat behind our tent walls when suddenly, not far from the guards’ watchfire, another fire blazed up, illuminating a band of natives crouching around it. Ireteba recognized them as Wallpay Indians and, at Lieutenant Ives’ request, immediately rushed over to the same people to bring them an invitation. The savages seemed to have expected such a thing, and reassured of our intentions by the presence of the Mohaves and the young Wallpay, they approached us fearlessly with Ireteba. They were the same small, unclean, and wild-looking figures I described above; I also saw the remarkably strong muscles on the legs again, which by the way no longer seemed extraordinary to me since I had gotten to know more about the home soil of these people, on which they have depended from childhood, constantly struggling to climb to earn their living.

The visit, consisting of six or seven members, seemed to want to show us their friendly dispositions, for as soon as they arrived the hideous canyon-dwellers handed us their already prepared mezkall,<sup>33</sup> which of course was taken and also tried. The taste of the cakes, pressed in the form of a slab, was reminiscent of figs and had nothing repulsive about it. In comparison with the mass of such a cake, however, the nutritive substance contained in it was very small, and consisted of a honey-like juice with which the tough root fibers were richly soaked, and which had to be separated from the inedible parts by chewing and sucking. More readily accepted were two deer that one of the Wallpays had shot during the day and offered to sell to us. The largest and handsomest of the wild band, in no way inferior in outward appearance to his

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<sup>33</sup> *Möllhausen’s footnote*: Mezkall, a savory dough made from the flesh and fibers of agave roots. [Möllhausen does not refer to the distilled agave liquor, mescal. —*Ed.*]

comrades, at length prepared to make a speech, a speech which delighted our Mohaves greatly, but was but a sustained clamor for us. The friendly Ireteba informed us that the speech was very well and good, that it contained the warmest assurances of friendship and oaths of the most loyal devotion, but that he wished none of us to meet the speaker and his company unexpectedly in some hidden corner, since he could not guarantee that they would not then use their pointed arrows in a fatal way. He further asserted that, though on friendly terms with, or rather feared by, the Wallpays, he would not close his eyes to sleep on the journey home until he was out of the reach of this rapacious tribe.

The guests stayed seated in front of our fires until late at night and testified through a lot of talking and chattering how much our presence inspired them. The pipes that were offered were seized in an awkward manner and evidently puffed them more to please us than from a hobby. With the best will in the world, however, they were not able to completely stifle a deep-rooted mistrust, a mistrust that arose from the knowledge that they had betrayed, attacked and even murdered travelers in a treacherous manner. On the other hand, some of them, when encountering expeditions, had been seized by them and made into involuntary guides, a procedure which had still more aroused their hostile feelings. Of course, such captives had always escaped at the first opportunity, and had requited the violence of the whites, which in such cases was usually called forth by the direst necessity, with a few arrows sent among the mule herds, which were then answered with rifle balls. Under such circumstances, these irrepressible people could hardly be blamed for their shyness and mistrust, and with their limited views on the purpose of our appearance among them, they still showed much courage in approaching us at all. It was not without premeditation that they chose the hour of the night for an assembly, for, like wild beasts of prey, they believed that if they were received unfriendly, they could more easily slip out in the dark and send their missiles back to our fires unpunished.

The clear sky arched beautifully above us as we saddled our animals early in the morning on **April 2nd**; the sun's rays played on the slopes of the mountains, and slowly the shadows crept down. We pursued our way in the ravine, and were accompanied for a short distance by the brook, which again ran in the sandy soil, and nourished thirsty vegetation on either side. Carboniferous limestone formed the main formation of our surroundings, but I also saw sandstone and granite, and when, after

traveling south for two miles, we turned west into the main gorge, we had on either side high vertical walls of rock, on which the rocks, regularly superimposed layered types, were clearly distinguished. We were still at an altitude of about three thousand feet above sea level, and the steep banks that bound the wide gorge were about eight hundred feet high. The sandy, dry trail descended sharply, and to a lesser extent the colossal strata and their relationships descended with it to the northwest.

As we rode along, and the difference in height between our road and the plateau increased markedly with every mile, the gigantic and at the same time majestic masses of rock drew closer and closer around us, new formations and new colors rising from the ground, as it were, and becoming magnificent and threateningly overhanging united forms; I did not feel the scorching glow of the sun, whose power was doubled in the narrow rocky basin; I had only thoughts and eyes for the sublime scenery, which, apparently in the wildest confusion, had been arranged into such a beautiful whole by a master's hand. Our road went lower, the rocks rose higher, the streak of blue, sunny sky that looked down on us so kindly grew narrower, and with every step the images that I could only impress on memory changed. There stood temples of marvelous architecture, long porticoes, and mighty but delicately formed pyramids; wide vaults, arched windows and gates opened up, but down in the gorge, the dry bed of an occasionally foaming torrent, there was dry sand and smooth-washed rubble, and between this and in the cracks in the rocks prickly cacti protruded, almost the only vegetation in this inhospitable, I might say subterranean, wilderness. And yet people lived here, people who in their deep solitude seem to have lost all human inclinations, people who have no longing for social intercourse with other nations and are only driven up to the highlands by necessity to hunt there. Corn sparsely harvested in the sunny rocky nook, Colorado fish, and some game, are the sustenance of these wretched creatures, and indolent and indifferent, like the surrounding rocks, they carry on their lives like beasts.

We rode a short distance past a camp of about thirty of these unfortunate Wallpay Indians, who had made their home in a side ravine, but although only a few of them knew of the existence of white people, none of them moved to take a closer look at our train, yes, one would have thought that such expeditions would pass there daily, so little attention they paid to us. I made the same observation when we came close to several huts, in which the occupants remained lying motionless, as if they had

not even suspected our presence. The huts consisted of arbors of sticks and bark, leaning against the overhanging walls, and scarcely thick enough to afford any protection from the sun's rays. We met an old woman crawling slowly and laboriously under a burden of roots and herbs; it was a pathetic sight, this old, wrinkled, sickly panting creature; I handed her a piece of bread, but without accepting it or understanding my intention, she looked sideways at me with expressionless eyes, and then went on her way, grumbling and scolding.

After Ireteba had instructed us to follow the ravine further and further, he stayed in one of the miserable huts to, he indicated, make inquiries about the area. It was not possible to deviate from the indicated direction, but in our further advance we encountered such serious obstacles, namely boulders that had rolled down and steps in the path itself, that we began to doubt whether we would ever reach the Colorado in this direction. With the caution with which we could only move forward on dangerous ground, with the uneasiness we felt towards our animals, which, without having first rested, certainly could not have left the Wallpay Gorge again with their burdens, much of the impression that the imposing masses of rock necessarily had to exert on everyone was lost. Tired, most of them [the men] hung in their saddles and looked down in front of them; but we had already covered fifteen miles since early morning, and had descended about two thousand feet that way. According to our calculations we could no longer be high above the level of the Colorado, and at every turn we hoped at last to see the longed-for stream. Suddenly the gorge seemed to be closed off by a mighty rock wall, but green willow bushes shimmered lovely from a dark corner, and how encouraging was the loud rushing of a torrent that reached us! We hurried towards it as best we could, and a few minutes later, in the shade of willows and cottonwood trees, men and beasts were drinking in a long line from the diamond-clear waters of a mountain stream.

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A. Edelmann.

Der Diamant-Bach (Diamond creek).

Leipzig.

The Diamond Creek.

## Chapter Twenty-three.

Camp at Diamond Creek. — Hikes on the Colorado. — Heavy rapids. — The rest day. — Drawing at the Colorado. — Character of the river and its banks. — Wallpay Indians. — Egloffstein's late return from the mountains. — The loss of the dog. — Return journey through the Wallpay Canyon. — The Wallpay guide departs. — Rewarding the Mohaves. — Travel up to the plateau. — Camp without water. — A Wallpay guide escapes. — Journey to water. — Excursion to the second level of the plateau. — Character of the same. — Antelope hunting. — Loss of a soldier. — Night snowstorm. — Desperate search for missing person. — Final return of the same.

Pure and clear, like a diamond, the creek gushed past us from a northeastern gorge that, like a precious stone, lay opposite us, a very small valley decorated with the most graceful green, and we baptized the water that danced along in the air *Diamant-Bach* (Diamond creek [written in English]) and, in the limited space up to the foot of the rigid rocks, it bestowed its blessings to the best of its ability on relatively lush vegetation.

Impressions, and the child's feelings arising from them, are often repeated at a later age. I remember reading about subterranean enchanted gardens in the midst of terrible wilderness, and just as I was then carried away by the greatest admiration for the pictures of a rich imagination, so I rejoiced here at the sight of the small area of land that reminded me so vividly of those enchanted gardens. The shimmering flowers and birds were missing, and dead trees and bushes told of the transience of



what I saw before me; but by the sheer cliffs that towered high I could calculate how far below the surface of the ground I was; I had known that terrible deserts surrounded me in a wide radius; I had feared for our fate, and suddenly there lay in front of me in the most refreshing green spring, which had become almost alien to me, a wild mountain garden tended by nature, and through it the crystal-clear water murmured over colored pebbles and past hindering boulders.

The travails of the day were now forgotten, as was the Colorado, and with a feeling of blissful striding, we set about pitching our tents on soft grass at the foot of an overhanging cliff. Joy reigned everywhere, the people jokingly went about their camp duties, and with contented groans the animals rolled about on the herb-rich ground; Grizzly was happy too, and as if in high spirits he chewed on the fresh stalks; poor, faithful Grizzly! it was his last camp.<sup>34</sup>

As soon as we arrived I climbed up a projecting cliff, and from there, where I had a view of the valley and the masses of mountains enclosing it, I drew a sketch of the whole splendid scene. I was not a little troubled by the numerous lines of the mountain, more than two thousand feet high, which towards the southwest seemed to check the course of Diamond Creek, and the base of which was hidden from my view by a ledge. It resembled a mighty unfinished structure, surrounded by corresponding buttresses and towers. Up to the summit I could see the regularly superimposed strata, which, like man-made mantles, stretched across the entire breadth of the colossal rock, and which had been transformed into such strange formations by the influence of the atmosphere and occasionally falling moisture. Similar mountains appeared on all sides in the background, and by tracing the lines of the various strata with one's eyes it was easy to convince oneself that the mountains, now widely

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<sup>34</sup> This is the first mention during the land expedition of Grizzly, the dog that accompanied them. Grizzly had joined Möllhausen's group in Los Angeles, when the dog was but four months old, and together they traveled overland to meet the expedition at Fort Yuma on the Colorado River. Möllhausen (in his Volume 1, p. 126) describes Grizzly, beginning, "Grizzly war ein Hund, halb Dachs- und halb Wolfshund, und zugleich das häßlichste Exemplar seiner Race, welches ich jemals gesehen." (*transl.* 'Grizzly was a dog, half dachshund and half wolfhound, and at the same time the ugliest specimen of his race that I have ever seen.'). Ben W. Huseman reproduces Möllhausen's graphite sketches of Grizzly, which are still held by the Möllhausen family in Germany: "Teasing the Dog" (Huseman's fig. 55) and "The Last Days of Grizzly" (fig. 58). [Huseman, *Wild River, Timeless Canyons: Balduin Möllhausen's Watercolors of the Colorado* (Amon Carter Museum, Fort Worth, Texas, 1995; distributed by University of Arizona Press, Tucson).]

separated, had once formed a solid highland, and had stood in the most intimate connection with one another.

A peculiar play of colors appeared on the craggy walls, for while dark brown and blue-black predominated on the first eight hundred feet, the heights played in the most beautiful pink, yellow, blue and green, depending on the formations of different epochs lined up one above the other, and by the evening sun they were picturesquely illuminated. The extreme clarity of the atmosphere, moreover, made the more distant objects appear much nearer than they really were, and so we all believed that the beautiful mountain which I have just described is only separated from us by a spur of rock; but when I returned to the camp, I met Ireteba there, who assured me that the Colorado still flowed between us and that mountain.

Evening was not far off, and assuming the river was quite close at hand, several of us set out to have a look at it that same day. We quickly came to the end of the valley, the whole length of which was scarcely five hundred paces, and then turned into the narrow gorge, in which the brook, always with the same impetus, meandered from one side to the other and hastened towards the Colorado. It was a very arduous path, because sometimes tendrils, sometimes rocks, or even the stream itself prevented us from progressing, but in the hope of standing on the bank of the proud stream at every next bend, we continued to work undeterred. We had gone two miles in this way, when the ravine gradually opened into a broad sandy valley, and the foot of the well-known mountain remained hidden only by small willows and mesquite bushes. We were almost at the head of the valley, which was half a mile long; the mountain seemed to rise out of the sandy ground there, and we found it almost unbelievable that the broad mirror of the Colorado could still be found there. But as we stood still and listened, our ears pounded like the pounding of innumerable ponderous hooves, a dull, eerie roaring and raging, to which was added the peaceful splashing and murmuring of the brook at our side. We hastened through the middle of the undergrowth to the next elevation of the sandy plain, and a short distance in front of us greeted the frothy speculum of the river, which tumbled with irresistible force over the ruins of the nearby rocky fortresses that it had itself torn loose.

The sight silenced us, and with a feeling of admiring reverence we went on until our feet rested on the sands wetted by the waves of the stream.

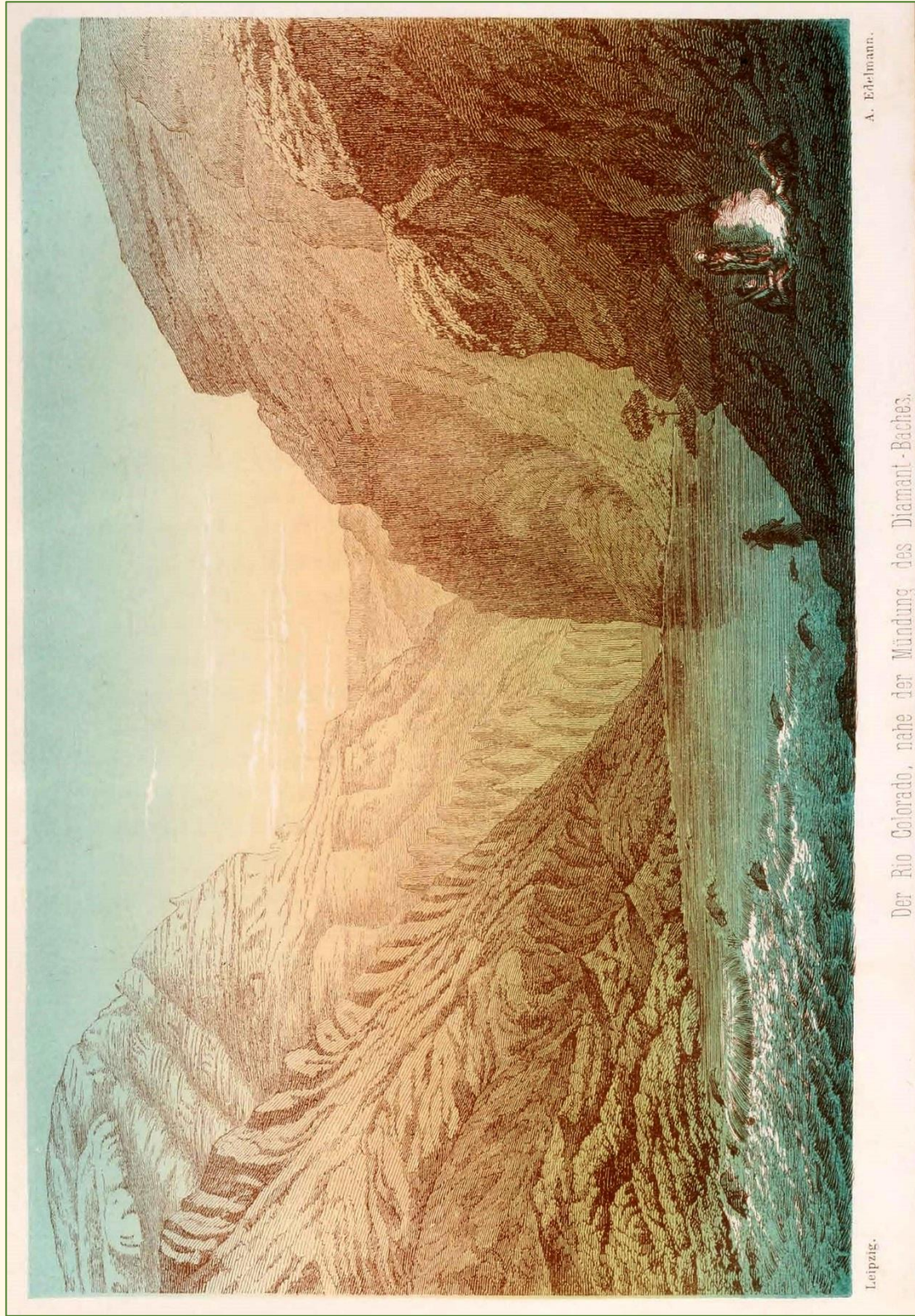
The majestic natural structures all around bore the character of unshakable, solemn calm; the unruly masses of water followed the path they had fought just as seriously; as it were, full of fierce fury at the resistance they constantly encountered, they stumbled from rock to rock, from step to step, and creating eddies and foam they pushed their way into the southern gate of the rock. I looked upstream, where the river parted from the dark gorges; I watched the wide expanse of water in front of me, covered with numerous whirlpools and the moving reflections on it, but involuntarily my eyes kept turning to the south, where the waters rushed and rushed, roaring and raging, as if in an eternal struggle with lifeless rock.

We only reveled in the sight of the magnificent scene for a short time, for the crimson peaks of the mountains had already wrapped themselves in a violet, dusty veil, and deep shadows began to descend around us in the closed world; we turned back, and when we reached the narrow ravine, impenetrable darkness surrounded us. Half crawling, stumbling, and often falling, we sought our way on unfavorable ground; we only got slowly from the spot, and the night was far advanced when we saw the first big fires of the Mexican guards, which magically illuminated valley, tree and rock.

The rock, heated by the sun during the day, also maintained a warm temperature in the rocky hollow for most of the night; in the narrow streak of heaven that is visible to us, the eternal stars twinkled and shimmered; the Mexicans sang, the mules' hooves clipped on the rocks, and the neglected fires burned lower in front of the tents. I lay down on my soft bed and fell asleep with the thought of heavy rain and downpours, which could have easily washed us with animals and baggage into the Colorado.

The early hours of **April 3rd** were so beautiful that one felt, as it were, invigorated; a refreshing coolness reigned in the shaded ravine, and the air contained only just enough moisture to make breathing a true refreshment. Almost involuntarily one tried to expand one's chest and lungs in order to drink more of the atmosphere so surprisingly transformed by the beneficial effects of the night. Because of our research and observations, but also with regard to the condition of the herd, the onward journey should not be started until the following day. This gave us plenty of time to roam the immediate area, and most of us left the camp early in the morning. Egloffstein chose the most arduous path, because accompanied by a soldier, an Indian, and unfortunately also our dog, he tried to gain one of the heights from which he was





The Rio Colorado, near the Mouth of Diamond Creek.



able to follow the direction of the Colorado a little further and to correct it on the map; Dr. Newberry and I, on the other hand, rejoined the stream, and while the former was busily hammering about among the rocks, I looked for a suitable place from which, for the purpose of drawing, I had a full and at the same time beautiful view of the picturesque rock gateway through which the foaming Colorado tumbled down.

The elevation of the river above sea level at that point, according to barometric observations, was about a thousand feet; at the Black Canyon, where we were forced to turn back with the steamboat,<sup>35</sup> was only five hundred feet. The latter difference in elevation was thus distributed over a distance of five hundred miles, or from the Black Canyon down to the Gulf of California, while the other five hundred feet was on the course of the current from the mouth of Diamond Creek to the south end of the Black Canyon, accounting for a distance of about ninety miles. Judging from the character of the current, as far as we have already known, and as we were able to overlook and, as it were, guess at Diamond Creek, the Colorado did not form any real waterfalls in its rocky bed [between here and] the beginning of navigability, but [there must be] instead more or less considerable rapids that follow one another almost uninterruptedly, making it impossible to ply from below or from above.

Before the Colorado expedition began there had been talk of exploring this river more easily in boats from its sources down. Here now, in view of the rapids where the river is about two hundred feet wide, tumbling in places with a drop of ten feet in sixteen feet<sup>36</sup> over mighty boulders, and where the walls rise vertically from the flood, together with the surf and landing impossible, we got a glimpse of what would have been the fate of those who would have dared to entrust themselves to the Colorado and its canyons in boats further up.

The water of the stream was here also clay-colored, just as we had learned to know it on the first part of the voyage, and heavily mixed with its sharp sandy constituents, the destructive action of which even the granite is not strong enough to resist. I often observed boulders that had been exposed to the strong current when the water level was higher, and in which the sandy water had carved regular furrows over time.

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<sup>35</sup> Just before the beginning of the land expedition.

<sup>36</sup> Möllhausen notes that in places in Diamond Creek Rapid there were falls of ten feet in sixteen, surely an overestimate.

I am indebted to my friend Dr. Newberry, and enclose both in the appendix.<sup>37</sup> Here I only mention that we had, in appearance, already passed the northern limit of the volcanic belt<sup>38</sup> of Mount Taylor and the San Francisco Mountains and found ourselves, as it were, within the first tier of the tabular highlands [stepped plateaus], which gradually increase their slope northward.

After I had finished my sketch, I went to the southern corner of the Diamond Creek valley to sketch a picture of the northern gorge as well; and there I sat in the cool shade of an overhanging granite wall; close by me the violent surf foamed, and from the wide opening of Diamond Creek the sun's rays fell with full force onto the turbulent water surface and onto the rugged mountain masses opposite. A few soldiers and Mexicans crouched fishing on the shore, and a lone heron flew past me, flapping its wings lazily; but in the loud roar of the falling water the hoarse cry of the bird died away, as did the laughter and jesting of the men, and a peculiar aura of undisturbed solitude reposed on this terribly beautiful wilderness.

It was long past noon when I grabbed my box and portfolio and sent myself home to the camp; I took one last look at the foaming waves of the Colorado and then slowly hiked up Diamond Creek. When I arrived at the camp, there was a deep stillness there; the refreshing morning cool had given way to an oppressive warmth, and yielding to the soporific influence of this, the greater part of the company had stretched out to slumber on the soft lawns in shady spots, which had become smaller and more remote. Some Wallpay Indians had ventured into our little empire; with fanning and at the same time sheepish glances they looked at the multitude of objects unknown to them and calmly waited to see if someone would take care of them. Our Mexicans were the first they approached, and soon afterwards I saw both parties sitting together in motley groups engaging in attempts at social conversation. In general, I have often observed that friendly relations are formed much more easily between the wild natives and the Spanish-American population than between the former and the white Americans. The darker complexion and the Indian type, which is in many cases a hallmark of Mexican physiognomies, may inspire more confidence in the natives, but I also believe that a certain instinct leads the latter to guess that they are one with the

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<sup>37</sup> [See Möllhausen's endnote 6.](#)

<sup>38</sup> [See Möllhausen's endnote 7.](#)

Mexicans, who rank differently from the Anglo-Saxon descendants; and that little difference between them and the natives is generally supposed by the Americans.

Ireteba's efforts, however, succeeded in winning the Wallpay Indians over to us, and so much so that two of them agreed to accompany us as guides on the further journey. For it was the faithful Mohave's [Ireteba's] firm resolve to return from there with his two companions; he confessed this to us with a melancholy expression, and added that he dared not venture further, as he might too easily fall into the hands of hostile Indian tribes. We did not doubt his sincerity, for too often he had given us proofs of his devotion, and even now, when he was about to part from us, he sought to recruit for us through the wilderness useful guides who, like himself, indicated that they knew the northern lands better than he did himself, having never set foot in those regions.

The evening came gradually, and the twilight quickly turned into black darkness; the Wallpays had moved away, the campfires, which one does not like to do without in front of the tents in the evening, even in warm weather, flickered in the air, and Egloffstein and his companion still hadn't returned from their trip up the mountain. We began to feel disquieted at his absence, and not without apprehension we gazed up at the black slopes of the plateaus, the only limit of which was the star-studded vault of heaven. While we were aware of his experiences on previous travels with Colonel Frémont, we were again not unfamiliar with the difficulty in controlling his enthusiasm, which easily got him into awkward and very dangerous situations. The descent from the rugged mountains at night was such that Egloffstein and his companion were able to save their lives. However, an accident of such a serious nature was not in store for us; those who were absent returned to camp late in the evening with torn boots, sore feet, and racked with hunger and thirst, and this time it was only Grizzly whose passing we had to mourn. The poor dog had followed them up into the mountains, had also happily reached the top of the plateau, but had succumbed to thirst and exhaustion on the way back. Egloffstein, like Hamotamaque, had carried the poor animal a long way, but when darkness fell and they were only able to recognize the dangerous path by touch and feel, they had to leave the dog to its fate, and it can be assumed that that he was either torn to pieces by the hungry wolves a short distance from the camp, or devoured by the equally rapacious Wallpays. The loss of Grizzly was painful for all of us, because the friendly, affectionate animal had

accompanied us from Pueblo de los Angeles on the South Sea more than a thousand miles, through the most terrible wilderness, had given us some entertainment through its trusting nature and through its cheerfulness, and just when his vigilance began to be of value to us, we lost it.

At dawn on **April 4th**, a group of Wallpay Indians gathered at our camp and watched us closely as we prepared to leave. Ireteba introduced us to two guides who looked wild and unclean beyond all description and at the same time promised to accompany us to the next camp. The young Wallpay, who had been in our company for some days, was now superfluous, but when Lieutenant Ives wished to reward him for his services, he had vanished without a trace, and all searching and inquiring about him proved fruitless. It was unpleasant for us insofar as we were thereby deprived of the opportunity, by richly rewarding him in the presence of the new leaders, to make the latter more docile and to tie them [their allegiance] more to us. In any case, distrust had regained the upper hand in the young man, and he was probably afraid of being prevented from returning and being forced to continue the journey with us. We had no doubt that he was watching us from some hiding place as we left Diamond Creek and went back the way we had come.

It was not without difficulty that we advanced in the arduous, steeply sloping gorge, and although already familiar with the surroundings and with the path itself, we often had to stop to urge the heavily-packed, panting animals that were left behind. I turned my attention to the marks left by the torrents of water that had tumbled through the canyon, and thought I saw marks at a height of over thirty feet on the side walls. Considering that the Wallpay Canyon, in its entire length, received hundreds of important tributaries, and drained a good deal of the plateau, the terrible swellings of the water did not seem so extraordinary to me, and I observed the gigantic boulders with particular interest, which had been a match to the shock of the mountain stream and had been moved down by it. We rode only six miles up the canyon and then, following our guides, turned into a northeast side gorge, which, however, after a few hundred paces curved in an easterly direction and then, almost parallel with the Wallpay Canyon, turned to the southeast. We had scarcely gone a mile in this tributary when our Wallpay guides, seemingly without any particular intention, moved a little sideways from the train, and suddenly, like cats, were climbing the craggy slopes of the nearby mountains. We stopped, for to penetrate

deeper into this arid, rocky desert without knowledgeable guides might have been fatal to the expedition; it only remained for us, then, to seek, by kindness or force, to get our hands on some natives, or to revisit the spring farther up Wallpay Canyon, and from there begin our operations anew.

Ireteba was very upset about the behavior of the Wallpays, and he repeated [in Spanish], shaking his head: *Wallpay mucho malo, mucho malo* (Wallpays very bad). After a short stay, however, he succeeded in procuring two new guides through the always obliging Hamotamaque, and guarding them more closely, we followed the direction indicated by them, in which there was neither a path nor a trace of human footsteps. We climbed quickly; the granite formations passed behind us, as did the sandstone and limestone strata, until at last, after a march of ten miles, we found ourselves about two thousand five hundred feet above our last camp and in the midst of the limestone formation. There we saw a spring on the slope of the plateau that rose gradually towards the north; traces of a small corn plantation were visible there, sparse grass covered the little spaces between the agaves, tallowwood and cedar bushes on the hills, and so we decided to spend the night on that spot.

Towards evening Ireteba, his two companions and the Yuma Indian were greeted in front of Lieutenant Ives' tent to receive the gifts intended for them. I was present, and was heartily pleased to see Lieutenant Ives making so good use of government property, and rewarding the Indians so liberally. Red wool blankets, white cotton things, colored fabrics, white china beads, tobacco, knives, small mirrors, and many other objects were placed in four heaps; one heap, containing twice as much as the rest, was given to Ireteba, while the others were distributed by lot to his companions, whose wildest expectations were far exceeded. One could see by looking at the happy people that their thoughts were on their distant homeland and that they were showing relatives and acquaintances their enormous wealth. The happy astonishment of the really grateful people was increased to the highest degree when Lieutenant Ives announced to Ireteba that he had been commissioned by the "Great Grandfather in Washington" to give him two mules, that he might more easily carry his belongings and those of his companions to his home valley. Sufficient provisions were also added, as well as some kitchen implements, and when the worthy Mohaves had received the articles intended for them by the government, and were again moving about the camp in their trusting manner, little presents rained down on them from all sides down, and

it was pleasant to observe how even the rude and otherwise so indifferent soldier stole a piece of tobacco from himself in order to give one or the other of our red-skinned friends a small souvenir to take with them.

The two Wallpay Indians were watched closely during the night, and, apparently very pleased with their treatment, crawled out from under the thick branches of a cedar bush early in the morning of **April 5th**. Almost at the same time as we did, Ireteba had saddled and packed his beasts, and, saying goodbye to each one, the three Mohaves walked among the busy people. Juckeye, the Yuma Indian who had accompanied the train from Fort Yuma all the time just for the sake of travel, had no inclination to return home now, but declared that he would only part with us later together with the Wallpays. Therefore, with the trust in the legality of his fellow tribesmen, which is peculiar to his race, he handed over all his treasures to Ireteba, remarked that he would pick them up later, and then went to the two Wallpay leaders, for whom he seemed to cherish a close relationship.

The Mohaves finally came to us, too, and calling everyone by name they shook their brown hands in farewell. Ireteba, the Indian, was visibly touched, and in his simple demeanor, in his open eyes, there was as much honesty and faithfulness as one can find in an unspoiled mind, and I say not too much when I assert that there wasn't a single person on our expedition who didn't see with a certain melancholy the gigantic man with the childishly harmless soul parting from him. Hamotamaque was exactly the image of Ireteba, except that youthful cheerfulness was still predominant in the slender fellow. When he took leave of me, he gave me his weapons, a bow and arrows, as a gift; I rejected them and indicated that he was not allowed to travel the long way to the Colorado unarmed, but Hamotamaque insisted on his will; he pointed to the east, that is, the direction in which my home lay, and then turned around to go from me. I kept the arms in my hands, and when the Mohaves were about to part from us, I once more called the good-hearted Hamotamaque and made him understand that I now consider the bow and arrows my property, and therefore give them both back to him; I then detached one of the delicately carved stone points from the fletched cane shaft, put it in my pocket, and then had the joy of seeing the lad armed as a warrior.

I cannot deny that I would very much have liked to take the arms with me as a souvenir, but it seems almost a godsend not to deprive the three Mohaves, who had



few means of defense, of even these. Besides, it seems to me that the tribe of the Mohaves is either much feared or much loved by the mountain Indians, for I gathered from the conduct of our friends that there was nothing dangerous in their lonely journey, so long as they would not succumb to an untimely hazard.

The three Mohaves departed in a southerly direction; Kolhokorao rode one mule and led the other behind him by the lanyard, while Ireteba and Hamotamaque walked slowly behind; they never looked back at us, but we did until they disappeared behind a ledge.

Soon after, Juckeye and the Wallpays went to the head of the procession and led it up the steep slope rising north of our camp. It was a most arduous journey, and it was only by twisting to and fro that we were able to get the heavily-packed animals up to the plateau, which was about a thousand feet high in a single step above the spring. The riders led their beasts by the bridle, and we often had to stop on the steep path to catch our breath after hard exertion. I was among the first to reach the plateau, and looking backward I saw the long line of the train, the end of which, despite the many turns, still reached down to the depths. Men and beasts panted heavily, and slowly one followed the other on the newly beaten track; soil and rock, which loosened under the unsteady footsteps, rolling down, hindered and injured those following, and not without effort it was possible to get the repeatedly resting and panting animals moving again and again. Finally the whole expedition stopped at the top, where after a short while we continued our journey northeast.

It was in our plan, in order to be able to determine the union of the two rivers astronomically, to touch the Colorado again where the Colorado Chiquito flows into the same. Now, knowing from many reliable sources that we were at the latitude in which the Colorado describes the sharp bend to the east [*sic*], we could only agree with the direction which the guides chose. The plateau, which, according to barometric measurements, rose more than four thousand feet above sea level, appeared as a wide, undulating plain, some of which, but especially in the lowlands, was richly overgrown with cedars<sup>39</sup>. We covered ten miles that day, and encamped on the edge of a sparse wood, enjoying only the benefit of some grass and an abundance of wood.

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<sup>39</sup> Möllhausen's footnote: *Juniperus tetragona*.

In order to reach water as soon as possible we prepared ourselves at daybreak on **April 6th**, but when we looked about for our guides we saw only two of them, and Juckeye, with a very cheerful face, told us that one Wallpay, afraid of the cold on the plateau, had fled under the cover of night. It is true that a change in temperature, mainly at nighttime, was already very noticeable, but we ascribed the Indian's flight more to his reluctance to serve us than to his sensitivity to a harsher atmosphere. We traveled only four miles that day, on a steep, almost indistinguishable path, which led now through small, dark green cedar groves, now through pleasant clearings. Only on the last mile did we come between continuous rows of hills, which marked the beginning of a new, higher level of the plateau. We followed a wild gorge, richly adorned with low fir trees and cedar scrub, and came across several small springs of very fine water in the same, which we were inclined to stop at, but Juckeye, who knew some knowledge of the country through the Wallpay, pushed us further and further upwards, speaking with insistence of a great deal of water. Incidentally, he was absolutely right, because after a short time the gorge led us into a beautifully situated valley surrounded by hills and remains of the plateau, in which we not only found a great abundance of clear, drinkable spring water, but also nutritious grass for our animals. The sight of some snowbanks surprised us not a little; they were the last remnants of larger accumulations, and the dampness of the soil proved that they had only lately melted under the sun's rays. If the snow reminded us that we were already well over five thousand feet above sea level, the presence of the white Rocky Mountains fir<sup>40</sup> still demarcated the high elevation of the ground. This fine, regularly growing tree, which was only scattered about, was a doubly pleasing sight to us when, since our departure from California, we had known little but wildernesses, where the tree-vegetation was very sparse. These firs towered up to eighty feet above their roots, but the cedars there also took on more tree form, and together with a lower species of fir<sup>41</sup> formed dense and regular forests over long stretches.

The top of the plateau consisted of a thick layer (100 feet) of bluish limestone (shell limestone) with numerous fossil shells<sup>42</sup>, sponges, and crinoids,<sup>43</sup> the latter

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<sup>40</sup> Möllhausen's footnote: *Pinus flexilis*, James.

<sup>41</sup> Möllhausen's footnote: *Pinus edulis*.

<sup>42</sup> Möllhausen's footnote: *Producti* [sic]. [*Productus*, a genus of fossil brachiopod; perhaps meant as a plural, "productids." —Ed.]

<sup>43</sup> [See Möllhausen's endnote 8.](#)

showing particularly fine, well-preserved specimens of segments. As I observed during the last two days, in our approach since leaving the lower Carboniferous formation behind, we had passed a very thick layer (300 feet) of red sandstone with shells and gypsum, next a layer (150 feet) of brown sandstone without fossils, whose samples were still found near the camp, and finally a yellow layer of limestone with shells, on which the bluish shell limestone rested.<sup>44</sup>

Maintaining a southeasterly direction, I finally reached the edge of the plateau, whence opened a wide view of the lower step through which we had traversed the last two days. On the path we had followed, we had climbed evenly to the top; but here, and as far as I could see on either side, precipitous slopes, covered with vegetation peculiar to those regions, formed the connection between the two plateaus, which were separated by a difference in elevation of eight hundred feet. The horizon depicted in wide semicircles from northeast to southwest the boundaries of the plain that stretched out before my eyes, apparently endlessly in the south. The distant, light cedar forests appeared as groups of black dots, like scattered herds of grazing cattle, until they finally blurred with the surface in the blue distance, as like on the ocean or in Missouri's grassy fields; the eye wandered unhindered along the sharply defined boundary line; no mountain, no hill interrupted. Behind me now, as well as on either side, rose the ragged rim and detached remains of a still higher tableland; the slopes of it were wooded, as were the fragments that had been eroded away in the form of mountains, but everywhere the external features of the strata stood out, which, regularly layered, towered over one another.

I was turning to return to camp, when I suddenly heard the approach of fleeing game, which no doubt had been chased by another hunter. I quickly dropped to the ground in order to crawl within gunshot of it, but the dense wood did not even allow me to distinguish what kind of game I was pursuing, and only by their tracks did the shy antelopes betray themselves. As the frightened animals seemed to calm down, I patiently crept up to them again and again, and thought I could count on a hearty roast, when suddenly the whole herd rushed past me at a distance of about a hundred paces. I saw nothing, but by the stamping and snapping of dry twigs I knew the haste with which the fugitives were retreating. Some natives wandering there could very easily have caused this disturbance, and so as not to be exposed to a cunning attack,

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<sup>44</sup> [See Möllhausen's endnote 9.](#)

and at the same time to learn the reason for the movement, I pressed myself close to the ground under the drooping branches of a cedar and listened. But I had scarcely been lying there when two mighty wolves broke out of the thicket a few paces from me and, using all their strength, pursued the antelopes. Without wasting any time I got on my knees and fired after the beasts, but in the rush a gnarled trunk received the bullet intended for the largest of the two sinister hunters. This was the whole success of my hunt, of which I had promised myself so much; I loaded my rifle, but when I turned homeward I realized, to my no small annoyance, that in my eagerness to hunt I had gone too far and had not paid attention to the direction. My pocket compass was unfortunately in storage on my saddle, and so I looked up sullenly at the overcast sky, where I could not discover the position of the sun; I lifted my wet finger, on which I could feel no air flow, and examined the surroundings, which looked exactly the same in all directions. So it was only left for me to follow my own tracks, which finally had to lead me to the edge of the plateau. It was unpleasant and tedious work, and I fumbled for hours among the many intersecting prints before I got far enough to know with certainty the direction. I finally returned to camp, tired and hungry, and found to my chagrin that the other hunters were no happier than I, and that one of them was even missing. It was a soldier of the escort, but since in the evening columns of smoke were still rising from the campfires and could still be seen from afar, we did not think there was any reason for serious concern, and left it to his comrades to lure him over with signal shots.

Towards evening the sky became more and more overcast, the wind intensified and with it the cold, which announced a nocturnal storm. Deep shadows fell in the gloomy cedar forest, the crowns of the tall firs swayed, individual rotten trunks creaked loudly, and the missing soldier had still not returned. Fires were lit at high points and kept up late into the night, but this too had no better success than the signal shots, and with deep regret for the man, whom we had to consider to be lost and soon to have died, all further attempts to save him or to clarify the fate that befell him were postponed until the following morning.

During the night the storm sang eerily through the needles of the firs and pines, snowflakes settled inaudibly on the taut walls of the tents, and when we looked outside in the morning, we were almost blinded by an inch-deep blanket of snow, in which mountains and valleys were wrapped. A lead-colored veil still covered the sky,

high up the flakes drew straight lines with the north wind, but they scarcely touched the layers of air protected by tree and mountain when they began to sway and playfully chase each other around between the firs, until some envious branch caught them, or their own heaviness pulled them down to their companions who lay motionless on the ground and awaited their end, as it were. Anyone who has ever attentively observed the ever-changing play of softly falling snowflakes will also have the impression that each flake had a life and obeyed its own will; if we are now inclined to enliven dead and rigid objects with active imagination in this way, we easily find the most appealing entertainment everywhere, and the observation of natural scenes, which in themselves are inconspicuous, often offers us rich food for thought.

Contemplation of the graceful spectacle of snowfall was soon interrupted by the news that the lost soldier had not returned. The departure of the expedition was therefore postponed, and patrols were immediately sent out in all directions to look for traces of the suspected casualty, which work the continuing snowstorm promised to make considerably more difficult. Hour after hour passed; pity for the missing person, as well as the thought of his torments, was predominant in everyone in the camp and rested like a gloomy shadow on our otherwise cheerful company. One after the other the scouts returned, they had traveled widely in the area, they had signaled with the horn and musket, they had even discovered the tree under which the missing man had spent the night in front of a small fire, but from there all tracks were covered with snow again, and late in the afternoon the last patrol came into the camp without bringing any news of the lost man. Even if we did not give it up completely, for our own sake we did not want to lose any more time at that point, and it was therefore decided to set off the following morning, but to leave food in the deserted camp, which the lost man, should he get there, would be able to follow our trail and catch up with us. The sky had cleared again in the afternoon, the snow had melted before the thawing wind, and when dusk began only sparse white streaks adorned the slopes where the storm had swept up larger masses of snow. It was bitterly cold, and in order to be able to spend the evening hours more comfortably in front of the fire, we built an arbor of cedar branches, which kept the icy air on one side, while on the other a good pyre streamed out soothing warmth. Suddenly, while we were working, we heard happy exclamations coming from the soldiers' camp. The missing person had finally

returned, and perhaps in order to learn more about the circumstances of his absence and the adventures he had survived, we walked over to the fire, where the half-starved man was overwhelmed with food and being bombarded with questions. With only the loaded musket and three cartridges in his pocket, he had left the camp the day before, driven by the air of the hunt. A soldier who is accustomed to finding the paths to be taken precisely prescribed easily fails to familiarize himself with his surroundings on such trips to such an extent that he can at least pick up his own footsteps and follow them back. So it had been with him, for less than two hours had he been roaming about the ravines when he got lost, and, trying to come back to us, got deeper and deeper into the wilderness. Fearing that the expedition would continue the journey without him the following morning, and then seeing certain doom in sight, he lost his calm deliberation, and aimlessly, acting as it were on instinct, he hurried along in a direction which always led him brought him back to the same point, which completely robbed him of the last trace of thought and reflection. At length, nightfall compelled him to throw himself down under a cedar, and there, tormented by hunger and thirst, sleepless, he awaited the dawn of day. Day had scarcely dawned when the horn signal, faint but clear, reached him from the camp. He got up and hurried towards it, but deceived by the echo, he must have taken the opposite direction, for tormented by mortal fear, he wandered about the whole day instead of waiting an hour longer under the tree and one of the patrols would have found him.

Since we no longer had any reason to worry about a human life, the old cheerfulness returned, and soon afterwards we were lying in a circle around the fire, which was fed with sweet-smelling cedar wood; the artificial green wall kept off the harsh north wind, branches and blankets shielded us from the damp ground, the stars twinkled, the pipes fumed, and everyone listened attentively to the talkative Peacock, whose tale of himself, only now and then spoken with some very coarse remarks, was interrupted when a teasing gust of air reached the flames, driving the acrid smoke into his eyes.

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## Chapter Twenty-four.

Peacock's Tale.\* — Change of itinerary. — Travel up to the plateau. — Blizzard and thunderstorm. — The camp in the snow. — Stay of two days. — Melting of the snow. — Departure. — The San Francisco and Bill Williams mountains. — The Lagoon. — Finding a new road. — Camp without water. — Turning into a gorge. — Hike on the dangerous rock path. — Insurmountable obstacles. — Reversal of the expedition. — Sending the herd back to the lagoon. — New attempt to walk the Colorado. — The hike down into the gorge.

*[\*The beginning of the chapter, pp. 72–77 in the original volume, is printed within quotation marks and comprises Peacock's reminiscences. Being extraneous to the expedition narrative, it is omitted in this translation.]*

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Such was Peacock's story, only that he intertwined with it numerous adventures from his traveling life, incidents, the description of which constantly caught our attention, which betrayed good and noble feelings under the rough, passionate guise of a genuine, prejudiced Californian.

We were just about to leave the leisurely spot in front of the fire for the tent when Lieutenant Ives joined us to acquaint us with his next plans for the journey. According to these the whole expedition was to advance to the mouth of the Colorado Chiquito, but there it was to be divided in two halves in such a way that Lieutenant Ives, accompanied by Dr. Newberry, Egloffstein, and a corresponding number of soldiers and packers, cross the Colorado Chiquito at the first suitable place in order to make a last attempt to follow the course of the Rio Colorado up to the junction of the Grand and Green rivers. Peacock, the commander of the escort, and I, on the other hand, were to go up the Colorado Chiquito near the San Francisco mountains with the

greater part of the expedition, then turn south and set up camp at the sources of the San Francisco river, called the Rio Verde, to await Lieutenant Ives with his detachment, in case he did not get there before us. Both Lieutenant Ives and I, on the occasion of the trip under the command of Captain Whipple, had become familiar enough with the vicinity of the San Francisco mountains to fear mutual misunderstanding, and then these ancient volcanoes formed such prominent landmarks that that we could have easily determined our movements on both sides according to their position. After our meeting at that point, we should proceed without delay to the exploration of the Rio Verde, and following its course we would at last come to the Rio Gila, near the villages of the Pimo [Pima] Indians. From there Fort Yuma and soon San Francisco would have been our destination.

The execution of this plan, however, depended on the condition of the food, for should we encounter obstacles of a more serious nature in the near future, we could hardly count on extending our journey further than to the Rocky Mountains, and from there to the nearest town at the Rio Grande, and to prevent any emergency that may arise. Attractive as the exploration of the Rio Verde was to all of us, none could quell the doubts which he entertained as to the carrying out of this plan. Peacock knew well enough that there was scarcely enough food for a month; and that we would not be able in that time to complete our explorations in the difficult-to-reach region was pretty clear.

Inspired by the best of wishes, we finally retired to our camp, but for a long time we talked about the beautiful bear hunts that awaited us in the vicinity of the San Francisco mountains.

Icy cold air streamed towards us when we went outside on **April 8th**; the beasts had already been herded for an early start, and each went briskly to the daily work of saddling and packing. We were uncomfortably met by the news that Juckeye and the last Wallpay slipped away unnoticed during the night. The two Indians had always received the best treatment from all sides, and their disappearance surprised us all the more, since they had been promised a considerable wage for their services and had now renounced the same, taking only two woolen blankets with them. We therefore ascribed their escape less to their malice than to the wintry climate and the extremely rough nature of the ground, and we tried to extricate ourselves from the embarrassment in the best possible way.

The faint traces of a path were visible from the spring to the north-northeast. A mounted Mexican was placed at the head, with instructions to follow the curves at some distance in front of the train, and thus to serve as the expedition's guide, so to speak. We advanced six or seven miles without difficulty, and without much deviation from our original course. The path was steeply uphill, and led through a wilderness, the rigid character of which was much softened by graceful alternations of low cedar, tall fir, and friendly glades. Step by step of the highlands we climbed, and swiftly we approached the wintry region of the tableland.

The lead-colored sky arched in a wide arc, now and then a delicate little snowflake fell on the third brim of the felt hats or on the shaggy manes of the animals; the northwest wind intensified, the flakes followed one another more quickly, and the view became increasingly veiled until finally it was restricted to a small area. Although the snow which came in direct contact with the ground melted, producing mud, and hence the mercury in the thermometer could not have dropped below zero, the impassable ground was soon covered with a layer three inches deep, and the sides of men and animals turned towards the storm appeared as if shrouded in white cloth. We all suffered most painfully, for the limbs, wet from the melting snow, were stiffened by the icy wind, and if one tried to warm oneself by the movement of walking, it was like wading barefoot in the cold morass, for footwear was generally in such a deficient state that it afforded scarcely as much protection as the Indian moccasins to which a portion of our group had already taken refuge.

We laboriously covered mile after mile, climbing steadily; the snow rolled in thick clouds before the storm; thunder rumbled violently, but the lightning remained invisible in the gloomy, flake-filled atmosphere, and in a frightening way the mysterious highlands shook repeatedly under the shattering blows of the unusual wintry storm.

We had covered fourteen miles when we sighted some widely branched cedar trees, which seemed fit for our purpose; groups of low scrub, surmounted by tall fir-trees, were also nearby, and recognizing in these welcome refuges for the herd, we hastened to make the most needy preparations for the night.

Meanwhile the storm raged on with unbroken violence, fallen and falling snow whirled in an airy confusion; in between long pauses the distant thunder rumbled,

and the animals, frightened by the uncanny roar but exhausted from the struggle against the raging elements, with pack-saddles and blankets having been left on their sore backs as a means of warmth, bunched up in tight knots or, trembling and shaking, sought scanty shelter under the low-hanging branches of the cedar bushes. We ourselves seized ax and shovel, and with a lot of effort we finally managed to create a small fire, which, fed by dry pine wood, soon blazed up in mighty flames, the warmth of which could be felt from afar, the passing flakes transformed into just as many drops of water. There we stood in a circle around the pyre, our feet resting on the damp, muddy ground, and while the embers elicited hot steam from the garments turned towards them, masses of snow lay on the opposite side, always soaking wet and catching cold the thawed limbs. It was already dusk when we drove the last stake of our tent into the ground and removed the last shovel of snow from the sheltered space. Our supper was of the simplest kind, but more than savory food we longed for the refreshing stillness among the furs and blankets, and then with a feeling of comfort we watched the taut canvas bend with the force of the storm, and listened to the faint crackling sound of its colliding ice chips.

Deep winter surrounded us when we went outside on **April 9th** after an undisturbed night's sleep. The storm no longer blew with the same intensity, but heavy snow continued to fall, so that on this day a continuation of the journey could not be considered. The air was biting cold, a crust of ice had covered the morass kneaded by the animals' hooves, and it was probably the cold that caused the scattered herd to leave their hiding places and dig industriously for dry grass under the snow. We, on the other hand, remained tied to our tents and spent most of the day cleaning rusted weapons and putting them back into serviceable condition. The storm finally stopped towards evening, and the dark, monochromatic veil that had hung over us for several days separated and divided into heavy clouds. The mass of snow would certainly have been great if the lowest layers on the waterlogged earth had not melted, but a layer only two or three inches deep covered the softened ground, in which the animals sank in up to their fetlocks at every step, a circumstance that threatened to have a very negative effect on our onward journey.

On **April 10th**, the glorious snowy landscape swam in the brightest sunshine, centered on our camp with its smoking fires; the white surface stretched out in all directions like a undulating plain, and on it picturesque groups of evergreen trees

grew past one another. A wintry picture also has its charms, not only because of the already existing, graceful forms in the surroundings and their peculiar coloring, but also because of the solemn calm and soundless stillness that seems to hover above a blanket of snow; especially in the wilderness your own footstep fades away.

The snow-covered plateau was beautiful in the early hours, when the slanting rays of the sun stretched out the shadows of the trees and bushes and drew strange figures on the clear plain; it was beautiful, as the warm midday sun dissolved the snow on the evergreen trees and adorned each needle with an iridescent droplet of water; but it was also beautiful when toward evening heavy, gold-fringed clouds rose on the horizon and glowing red marked the westward view. I sat in the top of a tall tree and enjoyed the magnificent spectacle; I watched a plateau rising to the north and the distant clumps of trees shrouded in night mists and their outlines gradually blurred into one another; I also saw a fox, which seemed at home in the solitude of the highlands, pursuing a mouse with comical but cautious leaps.

In glaring contradiction to the endless wilderness and to the frightening loneliness which characterized it, stood the hustle and bustle in the immediate vicinity. A dozen fires flickered in the air, strong figures in worn, torn clothes and with bearded faces lined up around them; some people brought dry wood, the cooks kneaded bread dough, others scraped together pure snow to be protected against lack of water when it melted quickly the following morning. Everywhere, however, I noticed cheerfulness and exuberance, only the animals stood around sadly, and a couple of ravens croaked morosely on the bare branches of a dried-up fir tree as they waited impatiently for our departure, so that they could scout around the abandoned camp site for fat morsels. I climbed down from my airy seat, where I had enriched my memory with some fine pictures, and was soon lying among my comrades on fragrant cedar before the crackling fire.

On **April 11th** we prepared ourselves early for departure; the last of the snows had magically vanished during the night, the clouds which had threatened the previous evening had parted, and the damp ground smoked and steamed under the influence of the warmed atmosphere. Our journey was very difficult at first, for it was only with great effort that the animals were able to walk along the muddy path with their loads, and human help had to be used several times to get half-sunken animals



to stand again. Following an old Indian trail, we continued in a northeasterly direction, and after having covered six miles we came to firmer ground, where we proceeded quickly without encountering any further difficulties.

The character of our surroundings remained almost unchanged throughout the day, only the clearings became more frequent and extensive, and as a result a clearer view opened up to us. Thus, towards noon, we gained a view of the San Francisco and Bill Williams mountains, whose snow-capped peaks and slopes rose in front of us due east. They were still more than eighty miles away, but their picturesque forms stood out, recognizable by the light blue and white areas and lines. I stopped and greeted the proud mountains as old acquaintances, and I perceived them great friends with the thought of being able to hunt on their slopes again soon.

A completely different picture lay before us towards the north. There the horizon was limited by a plateau, which rose perpendicularly from the apparently uninterrupted plain. It extended widely from west to northeast, and was fissured and broken in several places, so that the severed parts contrasted as regular towers and ramparts against the blue sky. The more we approached this peculiar formation and the more clearly the play of colors of the rugged walls detached itself from the fragrant blue of the whole mass, the more firmly we believed that we were approaching the beds of larger waters, and that there at the foot of the embankment just described, deep down in the bosom of the earth, the small or the great Colorado flow, or that these two rivers also unite at that very point. Shortly before, before we saw the San Francisco mountains, we passed a small lake, which seemed to hold water most of the year, but was by no means fed by springs. We were already about nine thousand feet above sea level, too high to be able to assume such a thing without hesitation, especially given the knowledge of the geological formation of the ground, which we had gradually gained. A massive layer of limestone in that elevation covered the whole extent of the highlands; this was only a few feet below the surface of the ground, and at that point formed a basin-like depression, which received the rain and snow water of a considerable area. We watered the animals there, and with a faint hope of finding water again in the near future, we followed the old route.

Toward evening we were suddenly surprised by the sight of an old road cutting our path from west to east. Close investigation revealed that about twenty heavily laden wagons had come through it and taken the straight course from the Colorado

to the San Francisco mountains. The tracks were some months old and very obscure, so we could not ascertain the number of horses and mules driven there, but a beaten track down the middle of the road indicated a significant number of pedestrians and heavy cattle. We had left Beale's Road too far south to connect it with these tracks, as they stood in quite the opposite direction, and so we believed that a party of Mormons had left the Great Salt Lake and the settlements trying to reach New Mexico in this way. We flattered ourselves with the hope that, should we encounter insurmountable obstacles in the direction we were taking, we would be led in this way to a suitable crossing point of the Colorado. Being only a short distance from the river, we very much doubted whether, with a drop of at least seven thousand feet, we should find the gorges leading down to the river accessible to our expedition.

After a march of seventeen miles we camped on the edge of a sparse cedar grove. The water for our own use was provided by the filled casks and jars; the animals, on the other hand, depended only on tolerable grass, and so we were not surprised when, at daybreak, we discovered that part of the herd, under the cover of darkness, had taken the path back to the lake. The Mexicans who had been sent out returned with the refugees after a few hours, and the sun was therefore already high in the sky when we started our onward journey on **April 12th**.

Already on the previous day the firs had completely disappeared from our surroundings, and the cedar clumps had become lower and sparser; on this morning a ride of a few miles sufficed to get us out of the tree cover. The swellings and sinkings of the ground became more significant, and from the heights the eye was able to roam unhindered over long stretches on which only isolated cedar bushes stood around as if lost. The San Francisco and Bill Williams Mountains had again been withdrawn from our view, while in the west the peaks of blue mountain ranges appeared, and before us lay, in ever-increasing dimensions, the multifaceted plateau with its garishly colored but regularly marked bluffs.

Looking at the colossal ramparts and the vast gray expanse, where everywhere a wearisome monotony and desolation appeared, and at the thought that yet the grandest and most powerful of all natural scenes must lie before us, a peculiar feeling of impatience crept over me, but also the concern that with every new drop down I could expect to see the ground deeply split and to hear nature command, Halt! But we went uphill and downhill, over rows of hills and through valley bottoms; the ground

lowered more and more, and finally our entire view was limited to the nearby round hills. Not until about noon, after we had given our thirsty animals a drink from a rocky depression filled with rainwater, did the path turn into a gorge, and following it down we soon came down six hundred feet. We were there on a stratum of limestone, while strata of fossil shells and limestone piled high on either side of us, making up the accessible slopes to the plateau.

We were only able to use the narrow center of the gorge as our way for a short distance, but then a chasm forty feet in depth checked our steps, and by it we found that the tumbling waters had here broken the layer of solid rock and then with wild destructiveness widened the way and cleared it out. We set off on the barely recognizable path that led to the very edge of the limestone layer, always at the same height. In scarcely a hundred paces the depth of the ravine which opened immediately beside the path had increased to three hundred feet; we could see the horizontal strata for a long way off, but nowhere did we see a place where the path might possibly lead down, and the mere thought of having to continue our journey on a path seemed to be created for mountain goats and antelopes made us dizzy. We dismounted to lead the animals by the bridle, unbuckled the spurs from our feet, and entering the long line we began the perilous journey. The gorge had increased in width as well as in depth, and the wall of the opposite bank offered us at the same time a picture of the one on which we were. Accordingly, both consisted of mighty towers of rock, arranged regularly in a row, with a high top, which led up obliquely to the top layer of the plateau, while from the rock layer that formed our path and its continuation on the other side, a single vertical wall stood out clearly to ghastly depth.

It is certainly not my intention to try to earn admiring recognition for what has been achieved and survived by describing too precisely the difficult situations that one all too easily gets into on such expeditions, but when I think back to those regions and everything I saw and felt then, I feel as if I have taken on an obligation, an obligation that gives me the deepest joy to fulfill, because it is about beautiful, sublime nature in its various forms and shapes and to describe as a devoted student, extolling her tremendous, enlivening power. If I then continue to describe experiences bordering on the miraculous, and to adorn dangerous moments in the story with lively colors, then I do it in order to explain how, in the face of an all-encompassing power,

man sinks into helpless nothingness; be it the human being in the illusion of imaginary greatness and infallibility, or the human being in the original state; the man at the highest level of self-conceit, or the downtrodden slave with systematically crippled mental faculties. Nations disappear from the earth without a trace, only the works and teachings of real sages may be boldly placed next to the most sublime works of nature as long-lasting monuments of true greats who have passed away.

The lively conversation in our train had suddenly stopped, everyone in the motley line of people and animals walked silently along, the right hand clutched convulsively the heavy rifle, while the left, shading the eyes, pulled down the brim of the hat, and the foot gently patting the ground before taking the weight of the body. All that was heard was the clatter of hooves on the solid rock, and a few voices, which cheered or calmed the mules according to circumstances; and when a weather-beaten boulder gave way from its joints under the unusual load, spanning wide spaces without a sound and shattering with a dull sound far below, then a gentle tremor quivered through the chest, and one saw strong men crouch down hesitantly like children to overcome an attack of dizziness. But the animals pressed on again and again, and everyone who thought of taking a short break were moved along.

Only at times did I venture to look aside, where beside the path, which varied in breadth from three to twelve inches [*sic*], opened the abyss more than a thousand feet deep; and then looking down, where brick-colored rocks were tinged with distance as if with a violet tinge, the towers and walls opposite seemed to come alive; with sluggish movement they pushed past each other, but the masses of rock that lay piled high one above the other on my right leaned threateningly over me, and it was high time to close my eyes for a few seconds to bring the swaying surroundings to a standstill again. It was a long and tiring journey that we covered in this way, doubly tiring because the sun was heating up the rock with a scorching glow, and the glaring colors of it blinded the eye at the same time. With a certain envy I watched the heavily laden mules, which climbed the precipices with imperturbable calm, only occasionally standing still and looking down with their long and half-pricked ears as if to measure it with their eyes. Though we had to be more sure of the safety of the mules than of our own, no one dared try to trust the saddle, save a few Mexicans who had grown up in the Sonoran mountains and tried at the risk of being thrown down, everyone doing their best to maintain their place in the long procession. We had

covered two miles when we reached a kind of platform at the western end of which, between two of the towers mentioned, the path turned down into the ravine. I happened to be among the foremost, and zigzagging down the steep declivity, we descended about eighty feet, when we convinced ourselves of the impossibility of continuing our journey other than by rope. The order to return was given, and, not without difficulty, the line of pack animals was driven back up the winding path to the platform, where fortunately the greater part of the expedition was still assembled. Loose stones and boulders often rolled towards us, but without an accident we finally got our footing again and assembled ourselves for a hike back to the abyss.

While the eye had already become somewhat accustomed to the horrible sight, and the attacks of dizziness and nausea had become less frequent, the impatience of the thirsty herd had increased, which, thinking they were being driven back to the water, pressed and pushed in a truly menacing manner. The tendons on your knees also began to ache and go slack, and spasmodic tremors twitched in your calves. So the way back was no less dangerous than the outward journey, and I must confess that the safety of the last animal carrying one of our collections was illusory.

Our next plan was decided by a small rocky basin filled with water, which we discovered from above at the foot of the first step, and which seemed to hold a supply sufficient for our staff and perhaps three or four animals for several days. Peacock and some Mexicans were first lowered by means of ropes, the empty vessels followed in the same way, were drawn out filled again, the animals intended for water transport were watered, whereupon we hastened further up the gorge with the whole expedition, and after a march of two miles set up camp at a suitable place.

As we were satisfied that in a renewed attempt to learn more of this marvelous terrain the animals could be of little or no use to us, on Peacock's advice the whole herd, except the watered animals, was sent back to the lake the same evening. We were already more than thirty miles from that point, so the Mexicans assigned to protect the herd received orders not to come back to us for two days. We intended during this period to do our best to extend our explorations on foot, either to get down the Colorado itself, or at least to get a view of it from above.

I made a little trip north before nightfall, but soon found myself in such a labyrinth of ravines that I could scarcely find my way out. Several times I discovered

damp spots where water had recently stood, but there was not the slightest trace of the vicinity of a spring, and I only saw isolated, very old, barely recognizable imprints of the hooves of fleeing antelopes and deer on the heights. I even missed the howling of the coyotes at night, the surest proof that there were neither natives nor game for many miles around.

Early on **April 13th**, a reconnaissance detachment left the camp to undertake the journey once more into the wild ravine. The company consisted of Lieutenant Ives, Dr. Newberry, Egloffstein, Peacock, Lieutenant Tipton and myself, with six soldiers. We were all well-armed, provided with provisions and water for twenty-four hours, and we also had long ropes and lines with us in consideration of the formation of the ground. We soon reached the well-known cistern, and as some workmen and soldiers were just busy hauling up water for the needs of those who remained in the camp, we took advantage of this opportunity to refill our canteens and have a drink of the nice, clear water to refresh. Here Dr. Newberry and I parted from the rest of the company to try and follow the gorge from the start. We descended easily by ropes to the store of water, and while our companions seemed to be floating along the rocky path high above us, we descended lower and lower.

On our subterranean path, as it were, we were constantly surrounded by the most interesting and magnificent formations, for overhanging rock walls, eroded-out caves, fallen colossal boulders and smooth rubble lined up in such a terribly wild chaos that we were often astonished and hardly able to find words. Now reaching over precipices, now settling down on ropes, we meanwhile gradually advanced. The pleasant coolness favored us in the hard work, and more and more we gave ourselves up to the hope of being able to explore the mysterious gorge, into which no human foot, not even that of an Indian, had ever penetrated to its full extent. Suddenly, however, a chasm checked our steps, a chasm that went down over a hundred feet, and which was almost immediately followed by other gradations, smaller and larger. We looked down, we checked the side walls, which protruded perpendicularly from the horrid depths far beyond our point of view, we measured our lines, but all was in vain, our strength and our means were not sufficient to conquer such obstacles, and with a certain yearning for the wild we finally decided to return. We were soon back at the water supply, the rope ladder was still hanging there, and a short time later we



were standing on the same spot where we had parted from our companions that morning.

## Chapter Twenty-five.

Climbing the plateau. — The strange formation of the canyons. — The rock cauldron. — Wonderful view of the same. — Return to camp. — Absence of Lieutenant Ives and his detachment. — Marsh birds on the plateau. — Arrival of Lieutenant Ives. — Description of the deep gorges. — Missing two soldiers. — Excursion to another rock basin. — Description of the same. — Finding the lost. — Harnessing the mules.\* — Division of the expedition. — Exploring the unknown road. — Union and camp of the two departments at the lake. — Other travel plans. — Departure for the journey to the San Francisco mountains. — The lower gradation of the highlands. — Water shortage. — Wandering in the canyons. — Beale's Street. — Volcanic region. — Choosing water. — The gray bear.

*[\*At this point the chapter is abbreviated in the translation, ending once the expedition leaves the immediate Grand Canyon area.]*

Since we had not been able to follow the path downwards, we decided to work our way up, in order if possible to get an overview of the immediate surroundings from there, which in geological as well as topographical respects contains much of the same that was worthy of work and that was unusual. As we laboriously climbed the steep slopes, the atmosphere seemed doubly hot and oppressive, having just left the vaulted cool ravine, and we were often forced to rest ere we reached the top of the plateau, where we encountered undulating waves of limestone strata and a relatively level path was open. We chose the western direction, and striding along the edge of the same ravine into which our companions had vanished, and where the breezy path lay far below us, we soon beheld formations and sceneries such as the boldest imagination could not foresee or create. We looked down to a depth of two thousand feet, and there met our eye a dark red sandstone that formed the bottom of the dry, bare rocky ravine, which in a westerly direction steadily lowered and widened. The

innumerable streams of water [channels] appeared like fine veins, winding their way from the foot of the vertical walls to the center and uniting there to form a deep riverbed, which as far as the eye could see was the color of red-hot iron. From the gorge rose the mighty towers with their regular architecture and roofing, formed by the horizontal strata of different epochs and more or less chiseled according to their response to the action of the atmosphere for thousands upon thousands of years. Brightly colored streaks ran in disorder along the scored walls, and while Dr. Newberry carefully tried to decipher from these streaks the history of the geological formation of the mighty highlands, I took up my sketch-brush and made a souvenir of that curious point.

It was about midday, the sun's rays fell on the bare rock with a scorching glow, which also heated up, radiated warmth and received the next layers of air in trembling movements. The winds were still, breathing grew heavy, but with undiminished interest we studied the lines and colors of the wondrous picture which lay before us in indescribable variety, but also in terrible solitude. A quiet, soporific humming of insects filled the wide expanse, numerous lizards lay motionless on the warm rocks, voluptuously soaking in the hot air with wide open mouths, but in the shade of a boulder the poisonous tarantula peered out from behind its half-raised trapdoor.<sup>45</sup>

We had finished our work and rose to go on, the tarantula's door slammed shut, the lizards scattered, but the humming in the air continued and accompanied us as we walked along the edge of the plateau. The gorge, on which we constantly kept our eyes fixed, became ever more extensive; it finally coincided with a wide basin, into which new fissures flowed from all directions, in no way inferior to the first-mentioned magnificence of the formation. The basin itself deserves a more accurate description, for it was the point to which Lieutenant Ives and our other companions penetrated as if by a subterranean way, and which was to us who stood on high a splendid and almost the only picture of the character of those inaccessible regions.

I later showed the sketch I had made to Lieutenant Ives and Herr von Egloffstein, but both of them did not recognize the basin, because on their hike the view had been constantly restricted by towering rock faces and they had found themselves in deep gorges, which I had seen from up high only as insignificant gullies.

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<sup>45</sup> [See Möllhausen's endnote 10.](#)

The clear atmosphere peculiar to those parts is often the cause of error in estimating distances, but I think my statements approach the truth when I reckon the breadth of this terrible rock basin at six or seven miles. The enclosure showed quite the same strata and colors as we had observed in the first gorge, only that the most wonderful formations adorned the colossal walls, or were partially washed away from them, and these seemed to vie with one another in fantastic lines and forms. The red sandstone also formed the apparently level bottom in the basin, and it lay over two thousand feet below us, but by numerous streaks of shadow, cutting through the brick-red surface in the order dictated by the water, we could guess that new crevasses were there and gorges opened that went down thousands of feet.

In the middle of the basin rose a last remnant of the plateau, which by the regularity of its forms contrasted in the most remarkable way with its jagged and torn surroundings. A mighty cone towered up on the red base, the highest peak of which was adorned with a rock tower. The rounded roof of it once stood in connection with the bed of rock on which we stood, and looking down at the tower and slopes of the cone we saw everywhere the horizontal strata, the continuation of which was easy to discover at every vertical section in the high country. Here, then, where over a vast space colossal masses crowded into a single picture, and yet were only a small part of a mighty whole, the mighty dimensions of the individual ramparts and towers seemed to dwindle in comparison with those in narrower canyons, but one trembled almost at the impression made by the rigid, motionless masses, rich in color and form, and one scarcely dared to raise one's voice in the face of such terribly beautiful nature.

It was not without effort that I followed the lines that blurred chaotically before my eyes, and I could have lingered in the deadly loneliness for a long time, but the dazzlingly lit, colored rock had a painful effect on my eyes, and my body went limp under the burning rays of the sun.

We prepared for the return to camp, and sliding down the slopes we filled our pockets with fine specimens of fossil shells,<sup>46</sup> which lay in great numbers eroded from the weathered limestone. It was late when, exhausted from the arduous journey, we stretched out again in the shade of our tent, and awaited the return of Lieutenant Ives and his party. The sun sank, as it were, into the distant gorges, twilight rested on the

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<sup>46</sup> [See Möllhausen's endnote 11.](#)

mysterious highlands and quickly gave way to night darkness; but nothing announced the nearness of those who were absent. Besides, since they could not yet have set foot on the dangerous path when daylight was still favorable to them, it was not to be expected that they would continue their journey in the dark, and no longer worried, the small company in the camp had the misfortune to replace the lack of troops with double guards [*i.e.*, on longer shifts].

The night passed without disturbance, and while I was still lying leisurely on the soft buffalo skin in the early morning of **April 14th**, to my great surprise I suddenly heard the shrill whistling of large marsh birds, which were apparently circling our camp. I seized my gun, went outside and saw four large, beautifully feathered sabers<sup>47</sup>, of which I immediately got three. I prepared their skins but sent the meat to our kitchen, and though it was not palatable, it made a very acceptable change on our sparsely occupied table.

Our companions returned from the gorge early in the morning and were very surprised that we were still expecting them the previous evening, since they had sent two soldiers with a message for us. But their astonishment increased when they heard that the two people had not arrived at all. Peacock, the bold cavalryman who stalked up with sore feet, was the only one who was not surprised by the news, and he insisted with stoic calm on his comical notion that every soldier should have a boy in charge to keep them from getting lost. Incidentally, a few people were immediately sent back to the gorge with orders to lead the missing back on the right path by firing shots.

Lieutenant Ives' and Egloffstein's reports were as follows: Having reached the point where we had been forced to turn back with the train, they followed the path down, and at length, after much toil, reached the bottom of the ravine. Keeping the westward direction, they went lower and lower until at last high walls of rock towered up anew on either side of them, and blocked any further view. This was the spot which I described above as the red sandstone plain surmounted by the rock tower. Following as much as could be done in a definite direction in the tangle of gorges, and partly guided by a scarcely discernible Indian path, they finally came upon a ledge about twenty feet deep, against which stood a rotten post, the last rung of a

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<sup>47</sup> Möllhausen's footnote: *Recurvirostra occidentalis*.

crude ladder. Not far from there they saw a brook rushing over the rocks and watering a small valley. Held by ropes and gun belts knotted together, Egloffstein climbed down, not without risking his life, but there he encountered new obstacles that hampered his further movements. Looking further down, however, he noticed that the narrow space of the valley was divided into small fields, as if for irrigation, and he thought he could make out fishing gear from afar. In his observations he was suddenly interrupted by the sight of a native perching on a higher cliff and looking down at him curiously. Hoping to find here a welcome guide for our further operations, he made signs for the savage to come down to him, but the shy Indian, who understood the signs well, answered that he might come up to him first, what but that was beyond the reach of his [Egloffstein's] powers. After many vain attempts to win the savage over, he returned to his companions, and after a short while was taken home [hoisted back up].<sup>48</sup> Incidentally, two soldiers had been sent earlier to inform us that the company would be absent [from camp that night].

As we suspected, they had arrived at the foot of that uncertain path just before nightfall, had postponed the trek along it until the following morning, and preferred to spend the night on the hard bed of rock without fire or blankets and with only a very meager meal.

As I have remarked above, the drawing I made of that basin aroused the greatest interest, and Egloffstein, animated by the desire to enjoy a similar sight, in spite of his sore feet, decided in the afternoon to accompany Dr. Newberry and myself on a new excursion. We chose a more northerly direction this time, because just there we discovered a major depression in the ground, which could possibly be the low-lying bed of the Colorado Chiquito, which was our next sight to see again [on the expedition's extended itinerary]. We had already completely given up hope of getting down to the great Colorado at that latitude.

At last, after a march of three miles, we stood at the edge of the ravine, and before me lay a picture similar in character to that which I have already described, and yet so different in its parts and forms. The impression made on us by the mighty rock basin was heightened by the fact that we stood hard on the edge of the plateau and the horrible depths opened up directly at our feet. Hesitantly we shuffled down to the

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<sup>48</sup> The report of Egloffstein's misadventure is described quite differently in Ives' longer rendition (see pp. 108–109 herein).



dark red bed of the dry basin, about two thousand feet deep; in innumerable meanders, like fantastic arabesques, the various water channels ran along, and with them the ravines were joined by the gorges that reached far into the basin from the deep crevasses of the highlands. The average breadth of this crag was not less than six miles, but it was as it were divided in two by a wall-like extension of the plateau, which was adorned with such strange formations that one really thought one saw before one the well-preserved ruins of an Indian city. Even more striking was a mighty amphitheater, which stretched out in a beautiful, regular curve between our point of view and the rock face crowned with ruins. Through a wide opening it was connected with the main basin, but it formed a closed structure, which, more than anything else, had to excite the observer to contemplation.

Just as impressions, feelings and thoughts were often repeated on my lonely hikes in those wild places, it is also forgivable if I allow the same repetitions to occur in the description; and I gladly endure the reproach I may incur in attempting a repeated description of that strangely rugged high country.

So there, at a dizzying height, on the edge of the curve, I sat again and drew. The formations of different epochs piled up in front of me from a horrible depth,<sup>49</sup> one above the other, which can be clearly distinguished by the glaring color contrasts, each individual layer designating a world age. The walls stood upright, as if the slightest tremor might throw them down, and the features, which clearly proved that the falling drop of water formed the gorges that stared at me from all sides, seemed to me like a reminder to infinity. I grasped and drew, and at the same time looked longingly at the high cliff that rose out of the plain about twenty miles away, and at the foot of which the little or the big Colorado must froth past.

Both rivers could not, by our calculation, be more than fifteen hundred feet above sea-level at that latitude, and as the elevation of the plateau was nine thousand feet, the peculiar picture must have lain hidden before us, in which a river flows between vertical walls of seven thousand feet or more, or, in gradual, consecutive falls, overcomes the difference in altitude. On my return from that country the question

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<sup>49</sup> [See Möllhausen's endnote 12.](#)





Canyons in the High Plateau and Prospects of the Colorado Canyon.



has often been raised, whether the Colorado could not have dug its bed under the surface of the Plateau, since the elevation of the ground near the junction of the Grand and Green rivers is only about five thousand feet; the same is certainly conceivable, but on the spot one easily recognizes the improbability of undermining the massive strata of rock which form the surface of the earth over an immense space. Moreover, looking at the innumerable gorges which traverse the highlands like veins, there is no doubt that the deep, hitherto unknown beds of the streams in those regions, like the gorges, were gradually formed by erosion from above. Incidentally, from the heights of the San Francisco mountains one can see the openings of the fissures through which the two rivers presumably flow.

With a certain melancholy I looked across at the mighty embankment, which marked the course of great waters, and from which I was separated by obstacles that would have required more than human strength to overcome; with melancholy I also observed a harrier that soared on sure wings at the same height as my lofty standpoint over the depths. I envied the bird's strength, followed it in spirit and created in my mind, with foreboding horror, a picture of the rocky valley of the Colorado "of the West", which will perhaps remain a secret to people for centuries to come. When I turned to return to camp I found the seemingly uninterrupted plain before me again, the sky had clouded over, some rose-colored streaks shimmered in the west, heralding the imminent setting of the sun, and I sped to avoid being surprised by darkness between the ravines.

I was delighted to learn that the two missing soldiers had arrived. They had passed the place where the path led up and entered a false ravine. However, as soon as they perceived that they had gone astray, they had encamped, and, hoping that some help might come, had remained nearly twenty-four hours in the same place. It was the smartest thing they could do in this difficult situation, for after a long and fruitless wait they finally heard the signal shots of their comrades, who had been tracking them down with food and water.

Late in the night the Mexicans came back to us with the mules. Despite the long distance from the water, the herd had recovered somewhat during the last few days, and we traveled with unusual ease when we turned back on **April 15th**. We were soon

enjoying the magnificent sight of the snow-capped San Francisco mountains again, and half the day was not gone when we found ourselves on what was supposed to be the Mormon road. Here the expedition was divided for a short time, in such a way that Peacock hurried to the lake with the main train to await us there, while the rest of us, accompanied by six soldiers and only provided provisions for a few days, followed the mysterious wagon road westward. As this road had evidently been followed in a straight line from a crossing point of the Colorado to the San Francisco mountains, we again entertained the delusional hope of once again coming into contact with the longed-for stream, and we rode happily between the mountain's cedar-covered hills. Our joyful hope, however, came to an end after only three hours' journey, along with the road itself. For we came across the old encampment of those who had wandered there before us, and easily realized that we had nevertheless been led astray by the tracks of Lieutenant Beale and his camel expedition. Our further investigations revealed that Lieutenant Beale, tempted by the flatness of the high country, thought he had discovered the most suitable route across the Colorado to California in this direction, and that, having convinced himself of the inaccessibility of the river, he took the same route down to come back near the Bill Williams mountains to try his deliverance in a more southerly direction. The fact that on his return journey neither the wagons nor the camels once left the tracks that had already been traveled over was the reason why we could deceive ourselves about the number of wagons and also about the purpose of those who had traveled there. The mistake was all the more forgivable, as snow, rain and storm had been acting on the faint tracks for half a year, and we knew Beale's real road ran further south.

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*[The remainder of the chapter is omitted in this translation, the expedition having departed from the immediate Grand Canyon area.]*

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# Notes

## [Möllhausen's Endnotes]

["P. R. R." refers to the monumental series of volumes of the *Pacific Railroad Reports*.]

1. *Maguei or agave*. I beheld this aloe at that time in its just-opened flower, the tallest of which rose scarcely three feet above the plant itself. But the development of the inflorescence proceeds with such incredible rapidity that the stalks, before the formation of the seed-pods, often reach a height of over six feet. Through the excessive growth of the stalks, the flowers, which are initially crowded, are widely separated and a regular candelabra shape develops, as I have often had the opportunity to observe in old, dead specimens. About the candelabrum form of the aloe family see A. v. Humboldt, *Ansichten der Natur* II, pag. 214. Description of the *Agave Americana*, P. R. R. IV. pag. 9. About the preparation of the Mezcal, see above p. 43 [p. 29 in this translation, where he spells it Mezcall].

2. *The Cerbat Mountains* belong to the Sierra Nevada system, and show eruptive and metamorphosed formations throughout, with some strata of conglomerate and red clay of the Tertiary Epoch. Compare *Marcou's resumé*, P. R. R. III, appendix, pag. 171. and *Geology* report p. 49.

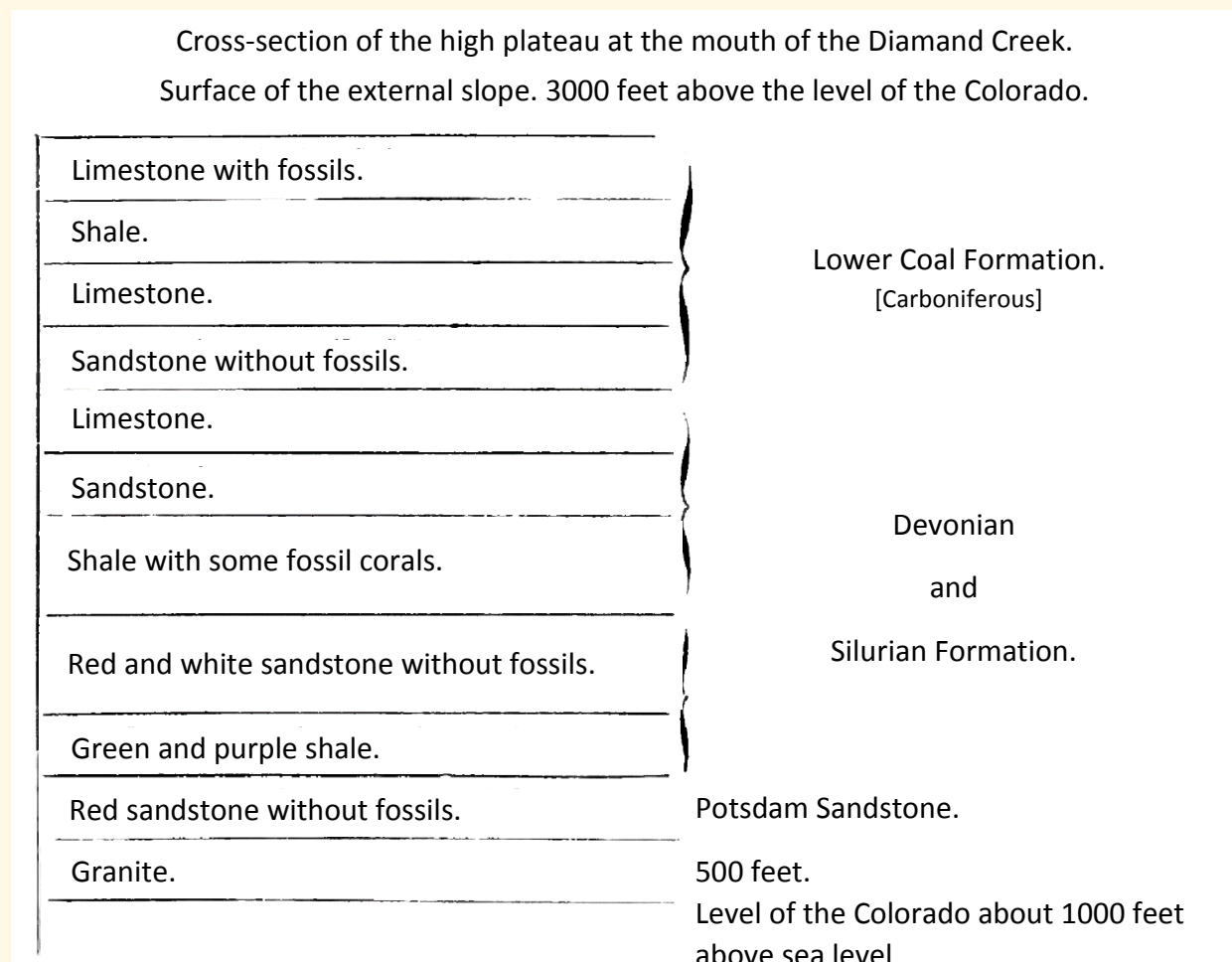
3. *Which is covered by a layer of basalt*. This formation characterizes, as it were, the extensive territories between the burned-out volcanoes of the San Francisco Mountains and the Colorado; for scarcely a day's ascent can be covered in those regions without encountering streams of basalt and lava, which cover the frequently disturbed terrain in all directions.

4. *Cactus Pass* is the point at which Capt. Whipple's expedition crossed the Aquarius Mountains on Feb. 1, 1854. (See P. R. R. III. pag. 99.) The highest point of this pass is 5182 feet above sea level, at 35° 13' 22" 50 N. latitude, and 113° 29' 50" 25 W. from Greenwich. The Aquarius Mountains are the nearest range of mountains to the east of the Cerbat Mountains, and are separated from the latter by the valley of the Big Sandy, a tributary of the Bill Williams fork, but then for a long distance by the valley of the latter. Both mountain ranges run parallel to each other from NNW to SSE, but come together closely where Williams fork turns westwards and breaks through the Cerbat Mountains, and then form a mountain range, as it were, which, turning a little more to the east, joins the Gila near the Maricopas and Pimos [Pima] villages.



5. [Note that the quotations in this translated endnote are not precise, in that they were translated by Möllhausen from English originals, and thus here translated from German back to English.] *Atilocapra Americana*. For a description of them, see P. R. R. VIII. pag. 665. The “second species of antelope” to which I refer in the text is named by Professor J. S. [sic] Baird, P. R. R. VIII. pag. 671, *Aplocerus*, Ham. Smith. He says there: “The white goat of the Rocky mountains is, from its most important forms and resemblances, a real antelope, bearing very little of the type of the hans-goat, unless, like these, it is of the ruminant family.” Incidentally, in his subsequent description of the mountain goat, Professor Baird complains that, apart from a skin without head and legs, he lacks all the materials for a more precise identification. On my many hunts through western North America I have never come across a [this] mountain goat, but I have encountered mountain goats and antelopes, which, varying somewhat in horn formation and color, bear a resemblance to the mountain goat as described by fur hunters and trappers. So I still can’t quite get rid of the doubts I have about the existence of a real mountain goat in those regions.

6. Cross-section of the Colorado Canyons at the mouth of Diamond Creek taken by Dr. Newberry, the geologist of the Colorado expedition.\*



\* In this translation, Möllhausen’s stratigraphic sections were digitally scanned from the original volume, with English translations then superimposed on the texts. Editor’s notes are in square brackets.

7. *Northern limit of the volcanic belt.*

The line of the 35th parallel between the Rocky Mountains and the Sierra Nevada is characterized, as it were, by a series of burnt-out volcanoes, some of which touch the 35° [parallel], some of which are clearly perceptible from it. The most prominent of these are in the direction from east to west: Cerritos, south of Santa Fe; San Mateo, west of Santa Fe; the latter also called Mount Taylor; several hills south and west of the Camino del Obispo; the San Francisco Mountains; the Bill Williams Mountains; a high peak northwest of the Bill Williams Mountains; the Cygnus Mountain, west of the Aztec Pass; Artillery Mountain, in the Cerbat Mountains; the Cones, east of Soda Lake; small crater near Mohave. In addition, there are still numerous lava flows in this belt, which cover extensive areas and cannot be traced directly to any of the craters just mentioned.

8. *Limestone layer with encrinites.* Such marine deposits are characterized, as it were, by the resemblance of the remains they enclose with the remains of animals which are now found alive in the seas. It is chiefly the stocks of polyps which bear a greater or lesser resemblance to the strains of polyps now occurring, and also the encrinites, or the remains of their joints. The latter we now find represented in the lily stars (*Encrinus*) and carnation stars, which are provided with a long articulated pedical adhering to the ground, while the upper, radiatingly arranged parts resemble a flower, which the animal can open and close at will. I often saw such fossil joints the natives put on strings, like pearls, and used as a kind of ornament.

We also find the echinids in this formation, that is, all organic bodies that do not decompose in fresh water.

9. Gradually ascending the high plateau, it was easier for us to determine the height of the various, almost horizontal strata, from barometric measurements. We recognized the advantage of this circumstance when we later stood on the edge of the terrible gorges and looked down where on the opposite walls the 150 to 500 foot thick layers of rock stood out as regularly lined up, brightly colored and only narrow bands. The clarity of the atmosphere peculiar to those regions renders the estimation of distances and dimensions difficult; objects lying far down appear very distinctly, and consequently very near; it is therefore too easy to underestimate the altitude.

10. *Half-raised door of the tarantula.* This large, black, densely hairy spider is commonly known in southern North America by the name of *Tarantula*, and its bite is greatly feared. In Capt. Randolph B. Marcy's report on the exploration of the Red river of Louisiana p. 262 this spider has been thought of as the *Mygale Hentzii* (Girard). I saw it most frequently on the arid plains at the edge of the Tulare valleys, where it crept slowly along, pursuing its prey, or sat motionless, lying in wait. Only on the high plateau did I observe these tarantulas several times in burrows or in cracks between rocks. She then always closed the opening to such an extent that only one passage remained open to her, and she always closed it herself through a web-like door, which, loosely fixed at the top, played back and forth in the opening on both sides, so that the fierce occupant got in as easily as out with a gentle push. Sticking her head under the half-raised trapdoor, she lies in wait for the

insects who happen to be hurrying by; if they are within range, it rushes out with incredible speed and never misses its victim. However, an unusual, frightening movement in her vicinity causes her to retreat deeper into the cave, whereupon the door closes and nothing more will betray the nature of the poisonous predator.

11. *Fossil shells.* The shells contained in this layer of limestone were mainly productids. William P. Blake describes (P. R. R. geological report III. p. 47), with the help of Marcou's notes, a similar layer of limestone scarcely 60 miles to the south (probably a continuation of the one just mentioned) and occurring in it: *Productus reticulatus*, *P. punctatus*, *Spirifer*, *Terebratula*, and *Polypi*.

12. *Formations of different epochs.* I also owe the following section to my honored friend and travel companion Dr. Newberry.

Cross section of the high plateau near the junction of the two Colorados.  
Around 9000 feet above sea level.

Limestone.	
Red shale.	} local.
Sandstone.	
Pebbly limestone with productids (200 feet).	
Red and green shale with gypsum, no fossils (200 feet).	
Blue limestone with productids and archaeocidarians (100 feet).	} Coal Formation [Carboniferous]
Yellow limestone with productids, etc. (100 feet).	
Light brown sandstone without fossils (150 feet).	
Red, calcareous sandstone; red slate and gypsum. No fossils (300 feet).	
Lower Coal Limestone. Same as the surface of the first terracing, at Diamond Creek, <i>cf.</i> note 6.	

## Appendix 1

### **Bibliographical Notes on the Leipzig Imprints of Balduin Möllhausen's *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico (1860, 1861)*<sup>50</sup>**

by Earle E. Spamer

Balduin Möllhausen's *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico* was issued under two imprints in Leipzig, both consisting of two volumes (illustrations of both imprints are on next two pages).

One imprint is that of Otto Purfürst (undated), the other is that of Hermann Costenoble (1861). A. Edermann, Leipzig, was the printer for both imprints as well as the printer of the lithographs.

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<sup>50</sup> This study was first prepared in the 1990s and has been reprinted, with some emendations, in various editions of the bibliographical series now titled *The Grand Canon: A Worldwide Bibliography of the Grand Canyon and Lower Colorado River Regions in the United States and Mexico*, by Earle E. Spamer (4th edition, 2022, now online at Raven's Perch Media <https://ravensperch.org>; digital copies may also be present in the digital-resources collections of various libraries). Further emendations have been made for this Appendix.

**Reisen**  
in die  
**Felsengebirge Nord-Amerikas**

bis zum  
**Hoch-Plateau von Neu-Mexico,**  
unternommen als Mitglied der  
im Auftrage der Regierung der Vereinigten Staaten  
ausgesandten  
**Colorado-Expedition.**

Von  
**Balduin Möllhausen.**

Mit 12 vom Verfasser nach der Natur aufgenommenen Landschaften und  
Abbildungen von Indianer-Stämmen, Thier- und Pflanzen-Bildern  
in Farbendruck, nebst 1 Karte.

Eingeführt durch  
**zwei Briefe Alexander von Humboldt's**  
in Facsimile.

**Zweiter Band.**

**Leipzig.**  
Otto Purfürst.

Otto Purfürst imprint [no date; 1860?]; Volume 2 is shown.

(Courtesy of The Linda Hall Library of Science, Engineering & Technology)



Reisen  
in die  
**Felsengebirge Nord-Amerikas**

bis zum  
**Hoch-Plateau von Neu-Mexico,**  
unternommen als Mitglied der  
im Auftrage der Regierung der Vereinigten Staaten  
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in Farbendruck, nebst 1 Karte.

Eingeführt durch  
zwei Briefe Alexander von Humboldt's  
in Facsimile.

**E r s t e r B a n d.**

Leipzig,  
Hermann Costenoble.  
1861.

Hermann Costenoble imprint (1861); Volume 1 is shown.

*(Courtesy of The Linda Hall Library of Science, Engineering & Technology)*

One contemporary notice (from 1861) cites an 1860 date, though not the publisher:

Möllhausen, Balduin v. *Reisen in das [sic] Felsengebirge Nordamerika's*. 2 Thl.  
8. [octavo] Leipzig 1860.<sup>51</sup>

The price of 2 Thaler is considerably less than the projected price of 6½–6⅔ Thaler that was estimated in an advance advertisement from Costenoble (see below). The notice was probably for only the first volume, as was also another notice — in late 1860, perhaps in advance of publication, a summary of one volume only of the *Reisen* was announced in *Leipziger Repertorium der deutschen und ausländischen Literatur*, which specified,

1 Bd. Leipzig, Costenoble. 1861, XVI u. 455 S. Lex.-8. (n. 3 Thlr. 12 Ngr.)<sup>52</sup>

“XVI u. 455 S.” corroborates that the pagination is that for Volume 1. The price of 3 Thaler, 12 Neu-Groschen for one volume is in keeping with the prepublication estimate for the two Costenoble volumes, as cited above. The fact that this notice provides a separate, single-volume price may also indicate that Volume 1 was available in advance of Volume 2, or at least made available to reviewers (hence this notice).

For the Costenoble imprint, advertisements were placed inside other publications issued by the firm. For example, the following display ad, clearly a pre-publication notice prepared while the Möllhausen volumes were in press, appeared in 1861:

Im Verlage von Hermann Costenoble in Leipzig erschienen ferner:

Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition. Von Balduin Möllhausen. Mit 12 vom Verf. nach der Natur aufgenommenen Landschaften, Abbildungen von Indianer-Stämmen, Their- und Pflanzenbildern in Farbendruck. Eingeführt durch zwei Briefe Alexander von Humboldt's in Facsimile. Zwei starke Bände von circa 65 Bogen Lexicon-Octav. Preis complett circqa 6½ Thlr. bis 6⅔ Thlr. <sup>53</sup>

In addition to the Leipzig editions, Wagner and Camp also cite, “Howes and Sabin list another German edition, Jena, 1861 . . .”<sup>54</sup> Howes does not specify different imprints for the

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<sup>51</sup> Notizen. *Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich*, Vol. 6 (1861), no. 2, p. 211.

<sup>52</sup> “(2879) *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico . . .*”, in *Länder- und Völkerkunde* [SECTION], *Leipziger Repertorium der deutschen und ausländischen Literatur*, Vol. 71 (1860), pp. 19-23. It is possible that the summary was written from an advance copy of Volume 1 of the *Reisen*, which is 455 pp. Further, a cataloging notation in the Harvard University Library copy of this serial states that the earliest livraisons of Vol. 71 of the *Leipziger Repertorium* were received(?) 30 October 1860.

<sup>53</sup> [Advertisement.] In *Elizabeth Charlotte, herzogin von Orleans. Ein biographischer Roman von A. v. Sternberg. Dritter Band*. (Hermann Costenoble, Leipzig, 1861), p. [263].

<sup>54</sup> Henry R. Wagner and Charles L. Camp, *The Plains and the Rockies : a Critical Bibliography of Exploration, Adventure and Travel in the American West, 1800-1865* (Revised and enlarged by Robert

Leipzig printings. I have not been able to locate the 1861 Jena imprint; however, I accept it on the authority of Sabin in the absence of contrary or clarifying information.<sup>55</sup>

The Purfürst imprint has been attributed a date of 1860. If correct, this is notable because it will have preceded certainly by many months the publication of the official report of the Colorado River expedition by its commander, Lt. Ives, published by the U.S. Government Printing Office in the latter part of 1861. It thus would also contain the first general and scientific descriptions of the Grand Canyon region, in that Möllhausen's observations would precede those published both by Ives (as the complete volume) and the geological report by John Strong Newberry<sup>56</sup> (Part 3 in Ives' volume). Möllhausen, however, does credit his geological information to Newberry, for whom he was a field assistant in addition to his artistic duties.

I have also found a notation of the availability of a Costenoble imprint for the two volumes in December 1860. An anonymously written synopsis of the *Reisen* cites:

Leipzig, H. Costenoble, (zwei starke Bände, gr Oct. [groß Octavo]) 1860.<sup>57</sup>

This may have been a pre-publication estimate for the work that would be available in 1860, or confusion between the two imprints.

Storm, who misread the German Fraktur in listing one imprint as Otto "Burfurst", indicates, "The probable date of publication is 1860."<sup>58</sup> Storm, and Wagner and Camp, both list undated Purfürst printings. Farquhar<sup>59</sup> cites the 1861 Costenoble imprint only. Howes does not list different imprints, although it is clear from his two citations that he had both the undated Purfürst imprint (for which he listed the date as "[1860?]") and the Costenoble

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H. Becker) (John Howell—Books, San Francisco, 4th ed., 1982), p. 636. (The 1920 edition noted, "The preface is dated Potsdam, May, 1860, and the above undated edition probably appeared in that year." [Henry R. Wagner, *The Plains and the Rockies : a Contribution to the Bibliography of Original Narratives of Travel and Adventure, 1800-1865* (John Howell, San Francisco, 1920), p. 146.]

<sup>55</sup> Wright Howes (compiler), *U.S.iana (1650-1950) : a Selective Bibliography in Which are Described 11,620 Uncommon and Significant Books Relating to the Continental Portion of the United States* (R. R. Bowker Co., New York, for The Newberry Library, revised, enlarged ed., 1962). Joseph Sabin, *A Dictionary of Books Relating to America, from its Discovery to the Present Time. Volume XII* (Joseph Sabin, New York, 1880), p. 277.

<sup>56</sup> John Strong Newberry, "Geological Report" in J. C. Ives, "Report upon the Colorado River of the West, explored in 1857 and 1858 . . .", *U.S. 36th Congress, 1st Session, Senate Executive Document [no number], Serial 1058* (Government Printing Office, Washington, 1861), Part 3, 154 pp. [separately paginated part in volume], with four maps in volume pocket. [See [ITEM NO. 2.3585](#) (J. C. Ives) noting that a concurrent issue, identical except without the two geological maps, was distributed as *House Executive Document 90* (see [ITEM NO. 2.3584](#)) (J. C. Ives).]

<sup>57</sup> "Balduin Möllhausen's Expedition nach dem Coloradofluss", *Magazin für die Literatur des Auslandes*, Vol. 29, no. 49 (4 December 1860), p. 577.

<sup>58</sup> Colton Storm (compiler), *A catalogue of the Everett D. Graff Collection of Western Americana* (University of Chicago Press, Chicago, for The Newberry Library, 1968), p. 430.

<sup>59</sup> Francis P. Farquhar, *The Books of the Colorado River and the Grand Canyon: a Selective Bibliography* (Glen Dawson, Los Angeles, limited ed., 1953).

imprint. The Library of Congress interprets the date “[1861]” for the Purfürst imprint; the Costenoble imprint does not appear in its catalog. The *National Union Catalog, Pre-1956 Imprints*<sup>60</sup> lists both imprints, including the Library of Congress data for the Purfürst imprint.<sup>61</sup> The undated printing is the only documented Purfürst imprint; the only 1861 dated imprints are those of Costenoble (Leipzig) and, apparently, the Jena imprint of Costenoble cited by Sabin. The Costenoble imprint noted anonymously in an 1860 synopsis has not been seen, thus it is unknown whether or not the title-page in fact carried a date.

The conjectural 1860 date for the Purfürst imprint may have been based by earlier writers on the signed date of Möllhausen’s preface, May 1860 (see p. xii), there being sufficient time to publish the book before the end of 1860. However, at this time I have seen no evidence that indicates even which of the two imprints, Purfürst or Costenoble, was actually the first to be distributed; this despite the fact that p. [456] of Volume 1 is an advertising page for publications from Hermann Costenoble — the page is present in *both* the Costenoble and Purfürst printings. Specific accession dates of this title by libraries or individuals are presently not determined. I note here that only the Costenoble imprint was noticed in the “Geographische Literatur” section of an 1861 issue of *Petermanns Geographische Mitteilungen*<sup>62</sup>, a definitive contemporary compendium of world geographic information and literature; but the Costenoble imprint may have been the only copy received.

Karl Klüpfel’s *Literarischer Wegwiser für gebildete Laien* for 1859–1860 includes a pre-publication advertisement (p. 94) for the Hermann Costenoble printing of Möllhausen’s *Reisen*; and in the 1861–1862 edition (p. 48) the two volumes are listed specifically with the imprint, “Leipzig 1860, Costenoble”, with the price of “6 Thlr. 24 Ngr.”, which note is about 4 Neu-Groschen higher than the pre-publication estimate cited farther above.

The two volumes of the Purfürst imprint that had belonged to historical bibliographer Wright Howes are in the Dechert Collection of the Rare Books Collection in the Van Pelt Library, University of Pennsylvania, Philadelphia. A writer, presumably Howes, has written inside the front cover of Volume 1 (square brackets are those of that writer):

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<sup>60</sup> Library of Congress; and American Library Association, Resources and Technical Services Division, Resources Committee, National Union Catalog Subcommittee (compilers), *National Union Catalog : Pre-1956 Imprints* (Mansell Information/ Publishing Ltd., [London], 1975), Volume 389.

<sup>61</sup> The citation of a *dated* 1861 Purfürst imprint in Spamer’s *Bibliography of the Grand Canyon and the Lower Colorado River* (Grand Canyon Natural History Association, 2nd ed., 1990) was an error.

<sup>62</sup> “Balduin Möllhausen’s Reisen in die Felsengebirge Nord-Amerika’s bis zum Hoch-Plateau von Neu-Mexiko, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition” in *Geographische Literatur [SECTION], Mittheilungen aus Justus Perthes’ Geographischer Anstalt über Wichtige Neue Erforschungen auf dem Gesamtgebiete der Geographie von Dr. A. Petermann [Petermanns Geographische Mitteilungen]*, 1861, Heft 3, pp. 125, 126.

*Account of the 1857-8 Ives-Newberry Exped.—and has never been tr. into English Complete with map, facsimile + 12 plates in color ordinarily seen in dated edn. of 1861. Wagner-Camp 362—says this [undated] First Edn was probably pubd in 1860.*

Also written inside this cover is “Ed. 1.” Further, Robert Dechert himself annotated,

*Wright Howes’s cop. bought by RD (Chicago, 1952) \$40<sup>00</sup>*

Two volumes of the Costenoble 1861 imprint are held in the library of Philadelphia’s Balch Institute for Ethnic Studies.<sup>63</sup> A note pencilled inside one volume indicates that the set was purchased for \$600.00 in 1972.

A third set of volumes was seen in the library of the American Museum of Natural History (New York City). Interestingly, of their holdings Volume 1 is the Costenoble imprint, and Volume 2 is the Purfürst imprint. These volumes appear to have originally been already a mixed set in an institution in Hungary, as both volumes include the same stampings and ink marks. On both title-pages a large “605” was penned in the Hungarian repository, then laid over by a piece of paper having on it a heraldic design with a lion and shield; surrounding the overlay is a stamped inked ring. Inside the front covers of both volumes is noted in pencil, apparently by a librarian in the American Museum, “8/19/1920 collated O.K.”

In comparing the text and illustrations of the two Leipzig imprints, other than the imprints themselves, and a slight difference in typography on the title-pages, there is no difference between them other than a few points regarding plate placements in the Purfürst printing that do not exactly correspond to the list of illustrations that appears in Volume 2, p. [x]. The paper used in the books, and the quality of printing of the lithographs, are the same in the two printings.

The bindings of the American Museum set differ. Volume 1 (Costenoble) is in boards with somewhat coarsely woven cloth glued to the spine and outside corners; the front and back boards are laid over with green paper, which wraps just to the inside margins of the boards. Volume 2 (Purfürst) has on the front board a trimmed quadrangle of buff-colored paper on which is printed the same text block as that which appears on the title-page but with an ornamental border added. On the copies seen, there is no indication that Volume 1 ever had the title overlay, and the binding of Volume 2 is not handsome.

The Costenoble imprint has been seen in boards with textured royal-blue cloth; a royal coat of arms is gilt embossed on the front covers; and the spine is black cloth, ribbed, with gilt stamping. That the publication was dedicated by Möllhausen to the Prussian prince Friedrich Wilhelm Ludwig, and that there is greater care and expense of binding and plate collation in the Costenoble printing, is circumstantial evidence that this imprint would have been more suitable for presentation copies. That the Purfürst imprint is more economically bound suggests that it is a lower-cost printing for wider distribution. Whether or not the

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<sup>63</sup> The Balch Institute library has, since the time I examined their volumes, been transferred to the Historical Society of Pennsylvania, in Philadelphia.



miscollation of plates seen in the Wright Howes copies of the Purfürst imprint is consistent in all copies distributed has not been determined, although Wagner and Camp also note miscollated plates. The Dechert Collection copies also contain pencilled annotations on the plate-list page (vol. 2, p. [x]), apparently by Howes, which note miscollated plates.

The mixed-imprint American Museum set seems to have been rebound, as noted. Each has dark-green marbled boards; the spines are textured brown cloth with gilt stamping in Fraktur. All three exposed edges of the text block are marbled. The inside front cover of Volume 1 includes an inked bookseller's stamp illustrating a book and carries the text in Hungarian, "Pozsony DRODTLEFF RUDOLF Pressburg."

Another mixed-imprint set (Vol. 1, Costenoble; Vol. 2, Purfürst) is seen in The Linda Hall Library of Science, Engineering & Technology (as illustrated at the lead of this Appendix). Each volume carries the "naughty" bookplate of the "Marquis de La Valette Peredon" (Félix de La Valette, *le marquis de La Valette*, 1806–1881), but information about the bindings cannot be established, both volumes having been rebound, with boards laid over with brown marbled papers. A librarian's annotation on the front flyleaf of Volume 1 indicates "1750.00 2 vols".

### Literature Cited in the Appendix

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Library of Congress; and American Library Association, Resources and Technical Services Division, Resources Committee, National Union Catalog Subcommittee (compilers). 1975. *National union*



*catalog : pre-1956 imprints. Volume 389.* [London]: Mansell Information/Publishing Ltd., 698 pp.

Möllhausen, Balduin. NO DATE. *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Leipzig: Otto Purfürst, 2 volumes, pagination *Erster Band* [i-vii], viii-xii, [xiii], xiv-xvi, [plate 14 of list v. 2, p. x], [1]-455, [456, advertisements]; *Zweiter Band* [i-ii], frontispiece, [iii-vi], vi-ix, [x], [plate 1 of list v. 2, p. x], [1]-406.

Möllhausen, Balduin. 1861. *Reisen in die Felsengebirge Nord-Amerikas bis zum Hoch-Plateau von Neu-Mexico, unternommen als Mitglied der im Auftrage der Regierung der Vereinigten Staaten ausgesandten Colorado-Expedition.* Leipzig: Hermann Costenoble, 2 volumes. [Pagination *Erster Band* [i-ii], frontispiece, [iii-vii], viii-xii, [xiii], xiv-xvi, [1]-455, [456, advertisements]; *Zweiter Band* [i-ii], frontispiece, [iii-vi], vi-ix, [x], [1]-406.

Newberry, John Strong. 1861. Geological report. *In: Ives, J. C., Report upon the Colorado River of the West, explored in 1857 and 1858. U.S. 36th Congress, 1st Session, House Executive Document 90, Serial 1058, Part 3, 154 pp.* [separately paginated part in volume], with two maps in volume pocket.

Sabin, Joseph. 1868-1936. *A dictionary of books relating to America.* New York: Joseph Sabin.

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## Appendix 2

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### 1. Excerpt from Joseph C. Ives' "Preliminary Report" of 1858<sup>64</sup>

Lt. Ives' preliminary report to Capt. A. A. Humphreys is dated "Washington, November 1, 1858." In this preliminary report, under the subject of "Topographical Description of the Region Traversed" (pp. 612-613) he generally describes the region bounding the Grand Canyon as follows.

This is a vast table land, hundreds of miles in breadth, extending eastward to the mountains of the Sierra Madre and stretching far north into Utah. To the extreme limit of vision immense plateaus rise, one above the other, in successive steps, the floors of the most elevated being from seven to eight thousand feet above the level of the sea. The Colorado and its tributaries, seeking the level of the low region to the southwest, have, by ages of wear and abrasion, cut their way through this huge formation, making cañons that are in some places more than a mile in depth. The mighty avenues of the main water-courses are the thoroughfares into which smaller but still giant chasms debouch, and these in turn have their own subordinate tributaries, forming a maze of yawning abysses, generally inaccessible, and whose intricacies it would be a hopeless task to attempt to unravel. Twice only, after long and difficult clambering down the sides of precipices and through walled approaches that seemed to be leading into the bowels of the earth, were the banks of the streams below finally attained. One place was on the Colorado itself, and the other near the mouth of one of its larger tributaries.

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<sup>64</sup> "Colorado Exploring Expedition. Preliminary Report of 1st Lieutenant J. C. Ives, Topographical Engineers, to Captain A. A. Humphreys, Topographical Engineers, in charge of Office of Explorations and Surveys, War Department, November, 1858." *As a part of* A. A. Humphreys, [Annual report to the Secretary of War, December 6, 1858]. *From* John B. Floyd, "Report of the Secretary of War," in *Message of the President of the United States to the two houses of Congress at the commencement of the Second Session of the Thirty-fifth Congress: December 6, 1858* (William A. Harris, Printer, Washington), pp. 608-619. (President's message: *U.S. 35th Congress, 2nd Session, Senate Executive Document 1, Serial 975.*)

Except at the place of decent the cañon of the river, as far as it could be seen, showed no point of practicable ingress or outlet, and the appearance of the torrent, foaming and surging along its confined bed, left little room for doubt as to what would be the result of any attempt, such as has been sometimes suggested, to explore the river in boats from its sources above.

So numerous and so closely interlaced are the cañons in some portions of this singular region that they have displaced all but scattered remnants of the original plateau, leaving narrow walls, isolated ridges, and spires so slender that they seem to totter upon their bases, shooting up to an enormous height from the vaults below.

The natural surface of the country opposes insurmountable barriers to travelling in any fixed direction, and the aridity of the accessible portions of the table lands rendered the explorations difficult. Though the season of the year was the most favorable for finding water, much inconvenience was experienced from its scarcity, and it is doubtful whether during the dry months the examinations could have been prosecuted at all.

West of the Little Colorado belts of cedar and pine forests somewhat relieve the general aspect of barrenness, but travelling eastward, between that river and the towns of the Moquis Indians, the country become almost entirely a desert. The immense stretches of sandy soil are broken only by ridges of brilliant red and yellow marls, that intensify the heat and glare of the sun. The mirage ordinarily existing in such localities assumes generally the appearance of water, and is rendered peculiarly unpleasant from the known absence of that element over the whole region in question.

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## 2. The March 23–April 15, 1858 journal entries of Joseph C. Ives, from Chapters 6–8 of his “General Report” of 1861<sup>65</sup>

In order to compare Balduin Möllhausen’s observations and remarks against the official report of the Colorado River expedition by Joseph C. Ives, the dates of Ives’ “General Report” corresponding to those in this translation of Möllhausen’s *Reisen* are transcribed here.

Take note that Ives’ calendar dates correspond to the dates on which he wrote the journal entries, which were written in camp. Sometimes they were written at the end of the day; at other times they were written a day or more after the events about which he writes, and in so doing he sometimes combines several days of reporting. The sequentially numbered camps are also indicated at the beginning of each dated journal entry; occasionally a number is skipped over when he also skipped a day in writing the journal. Also, some camps were held for more than one day, thus also a reason for skipped dates among the sequential entries. Thus there are disparities between Ives’ dates and the dates that Möllhausen embedded in his texts, as well as to the apparent specific locations, which are due to their different styles of dating and journaling.

In his cover letter to Capt. A. A. Humphreys, Captain of Topographical Engineers, Ives explains his purpose in publishing his journal (the “General Report”) as opposed to writing a more bureaucratically focused report (pp. 5-6):

The region explored after leaving the navigable portion of the Colorado—though, in a scientific point of view, of the highest interest, and presenting natural features whose strange sublimity is perhaps unparalleled in any part of the world—is not of much value. Most of it is uninhabitable, and a great deal of it is impassable. A brief statement could comprise the whole of what might be called the practical results of the land explorations. The country along the Colorado, however, with the exception of a few places, has been almost a *terra incognita*. Concerning the character and value of the portions previously explored, great differences of opinion existed. Between the mouth [of the Colorado River] and the highest point attained are many localities unique and surpassingly beautiful. Some of the Indian tribes, of whom little has been known, are subjects for curious speculation; and

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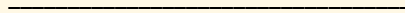
<sup>65</sup> “General Report.” In *Report upon the Colorado River of the West, explored in 1857 and 1858 by Lieutenant Joseph C. Ives, Corps of Topographical Engineers, under the direction of the Office of Explorations and Surveys, A. A. Humphreys, Captain Topographical Engineers, in charge. By order of the Secretary of War* (U.S. Government Printing Office, Washington), Part I, pp. [9]-131 [Part I is separately paginated]. (Volume, comprising five separately paginated parts in one volume, U.S. 30th Congress, 1st Session, *House Document 90* [also concurrently released as an unnumbered Senate Document].)

it being doubtful whether any party will ever again pursue the same line of travel, I have thought it would be better, in place of condensing into a few lines the prominent facts noticed, to transmit the journal kept during the expedition.

This involves the presentation of what may appear extraneous, and perhaps beyond the limits of a strictly official communication; but a record of the every-day incidents of travel, set down while fresh in the mind, serves to convey a general idea of a country that can scarcely be imparted in any other way, and can hardly fail of reproducing, to some extent, in the mind of the reader the impression made upon that of the traveller.

The many illustrations that accompany Ives' "General Report," both as numerous in-text engravings and separate lithographic plates, including fold-outs, are not reproduced herein.

Spellings and capitalizations are those of Ives. His consistent use of the term "Hualpais" (for Hualapai) refers to the tribe and individuals alike, whether singular or plural.





TRANSCRIPTION FROM pp. 91-110 OF JOSEPH C. IVES' "GENERAL REPORT"

CHAPTER VI.

BLACK CANON TO GREAT BEND—RETURN TO MOJAVE VALLEY.

Cañon scenery. — Roaring rapid. — Camp in the cañon. — Frequent occurrence of rapids. — Outlet from cañon. — Fortification rock. — Neighborhood of Great Bend. — Head of navigation. — Return to steamer. — News from Fort Yuma and the train. — Commencement of descent of river. — Mormon scouting party. — Disaffection among Indians. — Mormons among Mojaves. — Arrival of mule train. — Reconnaissance to Mormon road. — Violent storm. — Desertion of Mojaves. — Return to Mojave Valley. — Suspicious conduct of Indians. — Interview with Cairook. — Explanation of difficulty. — Division of party. — Return of steamboat. — Mojave guides.\* — Departure from river — Slope to Black mountains. — Last view of Mojave valley. — Sitgreaves's Pass.

[\* *Ives' Chapter VI includes the final days on the Colorado River, following the near-wreck of the Explorer; that part of the narrative is omitted here. His journal entry at Camp 60 was written at the first camp after having left the Colorado River; but it begins with remarks on incidents that occurred during the last day and night on the river, so the beginning of his Camp 60 entry is omitted here in order to coincide with Möllhausen's text that begins at the start of his Volume 2 of the Reisen, with the departure of the land expedition.*]

*Camp 60, Sitgreaves's Pass, **March 23**.*<sup>66</sup> • • •

Ireteba came back after the interview with his chief, greatly pleased that good feeling had been restored [following some misunderstandings]. He told me that he and two other Mojaves had been detailed by Cairook to accompany the land party, and were to guide us to some point on the Colorado above the Great Bend.

I now hastened the preparations for departure, being anxious to leave before anything could happen to interrupt the harmonious relations with our fickle neighbors. A rupture with the Mojaves

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<sup>66</sup> Dates in this transcription are shown in **bold** so as to enable them to be located more easily, in the same fashion as which Möllhausen's dates in the translation are also shown in bold; and see the introductory note (*above, p. 91*) regarding the dating styles.

would have seriously interfered with the progress of the expedition. The land explorations would have been delayed and perhaps altogether disconcerted. With foes on the bank, it would have been impossible for the steamboat party to descend the river without a detachment on either shore to defend them from attack, and this would have necessitated the return of all the members of the expedition to Fort Yuma. I now made an almost equal division of the force. The officers of the Explorer, with Messrs. Taylor, Bielawski, and Booker, half the escort, and all but three of my men, were selected to go back with the boat. Dr. Newberry, Messrs. Egloffstein, Mollhausen, and Peacock, three laborers, and Mexican packers, together with twenty soldiers, commanded by Lieutenant Tipton, composed the land party. The notes and collections were placed in charge of Mr. Taylor to transport to Washington. The preparation of maps, reports, and letters, the division of provisions, and selection of the articles to be carried across the plains, occupied a large portion of the night. By eight this morning the steamboat detachment was ready to leave, and our friends on the Explorer bid us good-by and were soon out of sight beyond a turn of the river.

The first arrangement and adjustment of the packs occupied two or three hours, and it was almost noon by the time we were prepared to start. Ireteba and his two friends appeared punctually and took their place at the head of the train. A Yuma Indian, who had accompanied Lieutenant Tipton from the fort, expressed a desire to go along, and was allowed to do so.

Cairook came to bid us farewell. I was never before so struck with his noble appearance. When he shook hands his head was almost on a level with mine as he stood beside the mule on which I was sitting. He indicated his wishes that we might have a successful trip, and remained watching the train till it was out of sight, waving his hand and smiling his adieus. We all felt regret at parting with him, for he had proved himself a staunch friend.\*

\* [*Ives' footnote:*] This excellent chief is no longer living. Not many months after our departure a difficulty occurred between the Mojaves and a party of emigrants, in which some of the latter were killed. A detachment of troops, subsequently ordered to the valley, was fired upon by the Indians, and a large force was sent to obtain satisfaction. The Mojaves made peace by surrendering eight or nine of their principal men as security for the future good behavior of the rest. Cairook volunteered to go as a hostage, and was taken to Fort Yuma and confined, with his companions, in the guard-house. The restraint soon became irksome and galling to their wild natures, and to Cairook in particular it was almost intolerable. His faithful follower, Ireteba, visited him several times during his confinement, and one day made an eloquent appeal in his behalf to Lieutenant Tipton, who was again on duty at the fort. He recounted in moving terms the services Cairook had rendered, both to Lieutenant Whipple's party and to my own, and begged that he might be set free. Of course Lieutenant Tipton had no power to grant the request, but this Ireteba could not comprehend, and went away grievously disappointed, saying that if the "commandante" (a title he had formerly applied to me) were there he knew the favor would not be refused.

When the chief learned the failure of the mission he made a characteristic proposition to his brother captives for the termination of his own and their confinement. At certain hours they were all permitted to come out for fresh air upon the porch of the guard-house, and he agreed, being a very powerful man, to seize and hold the sentinel and allow the rest to escape. The heroic and generous project was executed. The following

morning, as the Indians were taking an airing in front of the guard-house, they made a sudden rush down the hill towards the river, Cairook at the same instant pinioning the sentinel in his arms. He was bayoneted on the spot by the members of the guard. The fugitives were fired upon. Some were killed and some escaped. None were retaken alive. The survivors carried to the tribe the story of their chief's self-sacrifice, and the only son of Cairook, a fine boy, has since been regarded by the Mojaves almost with veneration.

Ascending to the first slope of the Gravel desert, we directed our course towards the gap in the Black mountains, by which Captain Sitgreaves and Mr. Beale approached the river. This gap appears to be the only pass that exists in the portion of the range south of the Black canon [*sic*].

For nine or ten miles the road was good, and led over a succession of gravel terraces and slopes to the base of the mountains. Before entering the pass I turned to take a last look at the Mojave valley. The view was extensive, comprising the whole region between the Needles and the Black cañon. The Dead mountain range, the Pyramid and Painted cañons, and Mount Davis, were raised in bold relief upon the low country near the river. The beautiful valley was enveloped in the delicate blue haze that imparts to it so softened and charming a glow, and the windings of the Colorado could be traced through the bright fields and groves till the river disappeared in the Mojave cañon.

Following Sitgreaves's Pass we traversed a rocky ravine for two or three miles, and, coming to some water holes and a patch of grass, at the advice of Ireteba, made a halt, and, for the first time during the expedition, pitched camp out of sight of the Colorado.

## CHAPTER VII.

### MOJAVE VALLEY TO BIG CANON, AT MOUTH OF DIAMOND RIVER.

Meadow Creek. — Ireteba's mountain. — Valley. — Railroad Pass. — Profile of cut-off from Big Sandy, via Railroad Pass, to Colorado. — Cerbat Range. — Topography near Great Bend. — Aquarius mountains. — Peacock's spring. — Hualpais guides. — Appearance of game. — Colorado Plateau and Cañon. — New River. — Side cañon of Diamond River. — Hualpais retreats. — Appearance of inhabitants. — Diamond River. — Big Cañon of the Colorado. — Geological exposures. — Ascent of side cañon. — Temporary embarrassment. — Arrival at Hualpais Spring. — Departure of Ireteba and Mojave guides. — Side cañons of the Colorado.

*Camp 61, Meadow creek, March 25.*—The grazing at the camp in Sitgreaves's Pass was poor, and the mules were ill prepared for the rough road before them. A few miles brought us to the base of a steep and difficult ascent that led to the summit of the Black mountains. The path was narrow

and devious, and attended with hazard to the weak and heavily-loaded beasts. All of the party had to clamber up on foot, leading their riding animals; and as the ascent was accomplished under a burning sun, it was a matter of some congratulation when the top of the pass was attained. A wide and beautiful valley divided the Black mountains from a high snow-capped chain called by Lieutenant Whipple, who had seen it from the east, the Cerbat range. A rapid descent led through a ravine to the eastern base of the range we were crossing. When nearly down the hill the head of a creek was encountered, and half a mile from the valley the ravine spread out for a few hundred yards, forming a snug meadow carpeted with good grass, and fringed on one side by a growth of willows that bordered the stream. The half-starved animals would hardly allow the saddles to be removed in their impatience to enjoy the unaccustomed plenty. They ate greedily for the rest of the day, and nearly all night, and this morning still seemed so ravenous that I have remained in camp to let them appease their appetites. The delay has permitted me to set up a transit and get some observations on moon culminations for longitude.

Ireteba informed me after breakfast that there were a few Hualpais living at no great distance, and that he would hunt them up, and endeavor to engage one to accompany us beyond the point where he himself would be compelled to go back. He has not yet returned from his mission. He has told me that in a few days we should strike the Colorado and come to a large settlement of Hualpais Indians; that it would be unsafe for himself and companions to proceed further, and that we must secure Hualpais guides to conduct us to another tribe that reside upon a tributary to the Colorado, a long distance above. Between the two villages he says the river is inaccessible and the country sterile, with few watering places, and those difficult to find.

I can converse with Ireteba with considerable readiness, notwithstanding the absence of our interpreter, Mariano. The Mojave has acquired a few familiar words, and is expert in drawing maps on the ground. His pantomime is expressive and intelligible. He is invaluable as a guide, having had enough experience with mules to teach him their rate of travel, and enable him to select the most favorable routes and the best grazing camps. I tried to persuade him to consent to remain with the expedition till its return to Fort Yuma, but when he learned that we might have to pass through the villages of the Maricopas, on the return route, he positively refused; making no secret of his terror at the idea of encountering any members of that tribe. I told him we would protect him, but he thinks if they could slaughter so easily a hundred of the best Yuma and Mojave warriors, our little party would stand a poor chance against them.

Opposite to camp is a conical hill four or five hundred feet high, surmounted by a cylindrical tower. It is a conspicuous feature among the other summits, and would be a good landmark to guide the traveller from the east to the pass, and to the excellent camping place at its mouth.

*Camp 64, spur from Cerbat range, **March 29.***—Leaving Meadow creek and its abundant pasturage, we descended to the valley, which is of immense extent, and runs in a northwest and

southeast direction, extending either way beyond the limit of vision. Toward the south, below the Black mountains, it unites with the Mojave valley, and from the base of the Cerbat range the eye could follow the gentle slope for over forty miles till it terminated near the head of the Mojave cañon.

The pass by which we were to cross the Cerbat mountains was apparent as soon as we left the Black range, and Ireteba, who had joined us early in the morning, headed directly for it. The pure atmosphere made it seem close by, and it was disappointing to plod through the hot sand hour after hour, and find it appearing as far off as ever. When the base of the mountains was at last reached, it was found that the ascent was scarcely perceptible. A place more like a cañon than an ordinary mountain pass presented itself, and we penetrated the range for a few miles through the windings of a nearly level avenue. In a pretty ravine, hemmed in by picturesque bluffs, our guide pointed out a good spring of water, with grass enough near by to afford a tolerable camping place.

The next day, after proceeding one or two miles along the pass, which we called the Railroad Pass, we emerged from the Cerbat range, and came into what was at first supposed to be a broad valley, but which turned out to be a basin formed by the chain we had passed, and spurs extending from it. There was a low divide on the rim of the basin nearly opposite the eastern entrance to the Railroad Pass. The altitudes of these opposite edges are about the same. Lieutenant Whipple, while locating a railroad line near the 35th parallel, had reached a point a short distance east of this divide, where he struck the headwaters of Bill Williams's Fork, at that time an unexplored stream. Supposing that it would conduct directly to the Colorado, he followed it till it was too late to return, and was compelled to pursue a difficult and circuitous route to its mouth. He was confident, however, from a careful study of the country at either end, that the direct route from the divide to the Colorado would be practicable for a railroad, besides greatly shortening the distance. The observations of the past two days have demonstrated the accuracy of his judgment. A uniform slope extends from the foot of Cactus Pass, a point on Lieutenant Whipple's line, to the divide, the altitude of which has been stated. From the divide the road can follow the rim of the basin along an unbroken ridge to Railroad Pass, from which place there is a smooth slope to the Colorado. The distance from Cactus Pass to the Colorado, by this line, is about eighty miles. For the whole of this distance there scarcely exists an irregularity upon the surface of the ground.

Instead of crossing the basin, Ireteba took us north, for ten or fifteen miles along the eastern base of the Cerbat range, to an excellent grazing camp, but where there was only a small spring of sulphurous water. This he told me was the last water we should have for two days. The mules had become so much weakened that I found it again necessary to remain a day in camp to permit them to graze. A violent hail-storm, followed by a raw and piercing sleet that kept them huddled all day with bent backs, shivering in the blast, counterbalanced the good effects that might have otherwise resulted from the delay.

A weary twenty miles of travel through a soft yielding soil have brought us to the northeastern rim of the basin, where we have camped without water. For two or three days we have been passing through a good grazing country. In the valleys and mountain slopes the blue grama and pin grass, both highly nutritive, grow luxuriantly. The want of water renders the region valueless.

Each successive valley crossed has been twelve or fifteen hundred feet higher than the preceding, and we have attained now an elevation of nearly four thousand feet above the level of the sea. Thus far the scenery has been monotonous and rather uninteresting; the valleys and ranges possess the same general character, and all appear to head somewhere about the mouth of the Virgen. The appearance of the country just passed over, and what I saw from the top of Fortification rock<sup>67</sup>, have led me to suppose that at the Great Bend of the Colorado there may be a focus from which quite a number of mountain chains radiate; but the observations have been limited to warrant a decided opinion.

Ireteba was unsuccessful in finding his Hualpais friends. There are certainly a number of the tribe in the neighborhood. The smokes from their fires have been repeatedly seen on the mountain sides, and fresh tracks upon our route showed that several persons had preceded the train by only a few hours.

*Camp 65, Peacock's spring, March 31.*—Leaving the Cerbat basin, the course lay towards a low point in the extension of Aquarius mountains—another chain almost parallel to the Black and Cerbat ranges. The gap much resembles the Railroad Pass. After entering it the trail took a sudden turn to the north, in which direction it continued. The sun was very hot, and the mules, not having had a plentiful drink of water for four days, showed marks of distress. Ten or twelve miles from camp, Mr. Peacock, who was riding in advance, discovered a large spring of clear, sweet water in a ravine near the road. There were no signs of the place having been used as a camp, and even Ireteba did not appear to have known previously of its existence. A Mexican subsequently found a running stream a mile or two further on, where the Indians passing this way had been in the habit of stopping.

Ireteba, at my request, again went in search of Hualpais tractable enough to enlist for a few days in our service. After an absence of several hours he came back and reported he had discovered two who were willing to go. In a little while, from the top of a neighboring hill, a discordant screaming was heard, proceeding from two Indians who were suspiciously surveying the camp. It was some time before our Mojaves could persuade them to approach, and when they did they looked like men who had screwed up their courage to face a mortal peril. They were squalid, wretched-looking creatures, with splay feet, large joints, and diminutive figures, but had bright

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<sup>67</sup> Fortification Rock is on the lower Colorado River above Black Canyon, just north and in sight of the present-day location of Hoover Dam. Ives used it as a vantage point during his upstream exploration in a skiff following the near-wreck of *Explorer* when it struck a submerged rock, concluding the upstream exploration by the steamboat.



eyes and cunning faces, and resembled a little the Chemehuevis [of the lower Colorado country]. Taking them into the tent occupied by Lieutenant Tipton and myself, with many misgivings as to how many varieties of animal life were being introduced there, I brought out some pipes and tobacco and told Ireteba to proceed with the negotiations. These were not soon arranged. The sentiousness [*sic*] belonging to Mr. [James Fenimore] Cooper's and other story-book Indians is not a gift of the tribes that one encounters in travelling. Our old guides and the two new candidates talked all at once, and with amazing volubility; they seemed to be recounting their personal histories from birth to the present date. The conclusion arrived at was that they knew nothing about the country—neither a good road nor the localities of grass and water; that they were out hunting and had lost their way, and had no idea of the direction even of their own villages. This very probable statement I correctly supposed to be a hint that they were not to be approached empty-handed; for when Ireteba had been authorized to make a distinct offer of beads and blankets, one of them recollected where he was, and also that there were watering places ahead to which he could guide us. It was thought advisable to again lie over for a day; and they went away, agreeing to be in camp on the day but one following.

A third Hualpais turned up this morning; he had features like a toad's, and the most villainous countenance I ever saw on a human being. Mr. Mollhausen suggested that we should take him and preserve him in alcohol as a zoological specimen; and at last he became alarmed at the steadfast gaze he was attracting, and withdrew to the edge of a rock overhanging the cook's fire, where he remained until dark, with his eyes fixed in an unbroken stare upon the victuals. The Hualpais are but little removed from the Diggers. They present a remarkable contrast to our tall and athletic Mojaves. The latter, as I discovered to-day for the first time, have suspected that the object of the expedition as to make war upon the others; and I had some trouble in convincing Ireteba that this was not the case. That we have come out to fight somebody he has fully made up his mind.

Deer and antelope are now frequently seen, but they are shy and hard to approach. A single antelope one of the Mexicans succeeded in killing; they are just in season, and the flesh was tender and delicately flavored.

*Camp 67, Big cañon of the Colorado, April 3.*—The two Hualpais preserved the credit of the Indian employés by being punctual to their engagement, and led off in company with the Mojaves as we ascended the ravine from Peacock's spring. It was a cool lovely morning, and a favorable day for travel. After proceeding a mile or two we issued from the hills and entered a region totally different from any that had been seen during the expedition. A broad tableland, unbroken by the volcanic hills that had overspread the country since leaving Fort Yuma, extended before us, rising in a gradual swell towards the north. The road became hard and smooth, and the plain was covered with excellent grass. Herds of antelope and deer were seen bounding over the slopes. Groves of cedar occurred, and with every mile became more frequent and of larger size. At the end of ten miles the ridge of the swell was attained, and a splendid panorama burst suddenly into view. In the

foreground were low table-hills, intersected by numberless ravines; beyond these a lofty line of bluffs marked the edge of an immense cañon; a wide gap was directly ahead, and through it were beheld, to the extreme limit of vision, vast plateaus, towering one above the other thousands of feet in the air, the long horizontal bands broken at intervals by wide and profound abysses, and extending a hundred miles to the north, till the deep azure blue faded into a light cerulean tint that blended with the dome of the heavens. The famous “Big cañon” was before us; and for a long time we paused in wondering delight, surveying this stupendous formation through which the Colorado and its tributaries break their way.

Our guides, becoming impatient of the detention, plunged into a narrow and precipitous ravine that opened at our feet, and we followed as well as we could, stumbling along a rough and rocky pathway. The Hualpais were now of great assistance, for the ravines crossed and forked in intricate confusion; even Ireteba, who had hitherto led the train, became at a loss how to proceed, and had to put the little Hualpais in front. The latter, being perfectly at home, conducted us rapidly down the declivity. The descent was great and the trail blind and circuitous. A few miles of difficult travelling brought us into a narrow valley flanked by steep and high slopes; a sparkling stream crossed its centre, and a gurgling in some tall grass near by announced the presence of a spring. The water was delicious. The grass in the neighborhood was sparse, but of good quality.

This morning we left the valley and followed the course of a creek down a ravine, in the bed of which the water at intervals sank and rose for two or three miles, when it altogether disappeared. The ravine soon attained the proportions of a cañon. The bottom was rocky and irregular, and there were some jump-offs over which it was hard to make the pack animals pass. The vegetation began to disappear, leaving only a few stunted cedars projecting from the sides of the rugged bluffs. The place grew wilder and grander. The sides of the tortuous cañon became loftier, and before long we were hemmed in by walls two thousand feet high. The scenery much resembled that in the Black cañon [on the lower Colorado River], excepting that the rapid descent, the increasing magnitude of the colossal [*sic*] piles that blocked the end of the vista, and the corresponding depth and gloom of the gaping chasms into which we were plunging, imparted an unearthly character to a way that might have resembled the portals of the infernal regions. Harsh screams issuing from aerial recesses in the cañon sides, and apparitions of goblin-like figures perched in the rifts and hollows of the impending cliffs gave an odd reality to this impression. At short distances other avenues of equally magnificent proportions came in from one side or the other; and no trail being left on the rocky pathway, the idea suggested itself that were the guides to desert us our experience might further resemble that of the dwellers in the unblest abodes—in the difficulty of getting out.

Huts of the rudest construction, visible here and there in some sheltered niche or beneath a projecting rock, and the sight of a hideous old squaw, staggering under a bundle of fuel, showed that we had penetrated into the domestic retreats of the Hualpais nation. Our party being, in all

probability, the first company of whites that had ever been seen by them, we had anticipated producing a great effect, and were a little chagrined when the old woman, and two or three others of both sexes that were met, went by without taking the slightest notice of us. If pack-trains had been in the habit of passing twenty times a day they could not have manifested more complete indifference.

Seventeen miles of this strange travel had now been accomplished. The road was becoming more difficult, and we looked ahead distrustfully into the dark and apparently interminable windings, and wondered where we were to find a camping place. At last we struck a wide branch cañon [Diamond Creek] coming in from the south, and saw with joyful surprise a beautiful and brilliantly clear stream of water gushing over a pebbly bed in the centre, and shooting from between the rocks and sparkling jets and miniature cascades. On either side was an oasis of verdure—young willows and a thick patch of grass. Camp was speedily formed, and men and mules have had a welcome rest after their fatiguing journey.

A hundred yards below camp the cañon takes a turn; but as it was becoming very dark, all further examinations were postponed till to-morrow. In the course of the evening Ireteba came into my tent, and I asked him how far we had still to travel before reaching the great river. To my surprise he informed me that the mouth of the creek is only a few yards below the turn, and that we are now camped just on the verge of the Big Cañon of the Colorado.

*Camp 69, Cedar Forest, April 5.*—A short walk down the bed of Diamond river, on the morning after we had reached it, verified the statement of Ireteba, and disclosed the famous Colorado cañon. The view from the ridge, beyond the creek to which the Hualpais had first conducted us, had shown that the plateaus further north and east were several thousand feet higher than that through which the Colorado cuts at this point, and the cañons proportionally deeper, but the scene was sufficiently grand to well repay for the labor of the descent. The cañon was similar in character to others that have been mentioned, but on a larger scale, and thus far unrivalled in grandeur. Mr. Mollhausen has taken a sketch, which gives a better idea of it than any description. The course of the river could be traced for only a few hundred yards, above or below, but what had been seen from the table-land showed that we were at the apex of a great southern bend. The walls, on either side, rose directly out of the water. The river was about fifty yards wide. The channel was studded with rocks, and the torrent rushed through like a mill-race.

The day was spent in an examination of the localities. Dr. Newberry has had opportunities for observation seldom afforded to the geologist. This plateau formation has been undisturbed by volcanic action, and the sides of the cañons exhibit all of the series that compose the table-land in New Mexico [Territory], presenting, perhaps, the most splendid exposure of stratified rocks that there is in the world.

A few of the Hualpais paid us a visit, but their intelligence is of so low an order that it is impossible to glean information from them, and their filthiness makes them objectionable. Our new guides seemed to think we should have difficulty in ascending to the portion of the plateau which they traverse on the way to higher points upon the river. The route they ordinarily pursue follows the cañon of Diamond creek, but this they pronounced impracticable for mules, and said that we must retrace our course for several miles in order to strike a more circuitous, but easier trail, that ascended one of the branch cañons.

Following their advice and guidance, yesterday morning we toiled up the rough road by which we had come, for six miles, when they struck off into a side ravine that led towards the southeast. Half a mile from the mouth, the Hualpais told Ireteba that our camping place was just ahead, and scrambled over the summit of a hill, in a minute were both out of sight. For a mile we kept on, every few moments coming to a fork, where the selection of the right road was left to chance. There was a network of cañons, and the probabilities were that nine out of ten would lead to an impassable precipice. The ascent became so rough that it was already almost impracticable for the mules, and at last the Mojaves stopped, declaring that they had lost their way, and had no idea how to find the camping place or the water, and that the Hualpais were a very bad set. This opinion no one was inclined just then to dispute. I however asked one of the Indians to go back and endeavor to find the deserters or some other member of their tribe. We waited impatiently for half an hour, and then the order was given to countermarch, for I intended to search for the route by which we had come; but before going far, the little Hualpais came back. He seemed amused that we should not have been able to find the water, and again took his place at the head of the column. He conducted us for two miles through a difficult and intricate maze of ravines, and then climbed a side hill, and in a most unexpected place pointed out a little spring. There was a sufficiency of water, and tolerable grass near by. The second Hualpais came back during the evening, and seemed also to be astonished that we should have had trouble in finding what to him was so familiar. They both professed a determination to accompany the train, and Ireteba told me that it was time for himself and companions to return.

This morning the Mojaves left us. I gave them three mules, and a large part of the remaining stock of Indian goods. Ireteba in particular was loaded with presents, every one being desirous to give him something. He is the best Indian I have ever known. He is perfectly unobtrusive, and is the only one that has never begged for anything. He has proved to me, as he did to Lieutenant Whipple, a faithful guide. He seemed sorry to separate from us, but informed me, in a confidential way, that the Hualpais were great scoundrels, and that it would not be safe for himself and friends to go further from their own tribe. He said that they would certainly be watched during their return; and if not vigilant, would lose both their presents and their lives, and that they were going to travel, for two days, without rest or sleep. I gave them a bag of provisions and some cooking utensils, and

packing all of their presents upon the mules they departed, much gratified with the termination of their expedition.

The Hualpais spring was upon one of the hills that form the southwestern boundary of the great plateau through which the Colorado and its tributaries flow. In these hills the side cañons head, and their course can be traced for a long distance, as they bury themselves deeper and deeper in the bowels of the mesa.

A bluff nearly a thousand feet high had to be ascended in order to reach the summit of the plateau. It was so steep that some of the mules gave out, and had to have their packs removed, and all were so much exhausted that we were compelled to stop when only an hour's journey from a camp where the Hualpais told us we would find water.

Since attaining the summit the road has been good, and has traversed a slightly undulating park, covered with luxuriant grass, and interspersed with cedar groves, where deer, antelope, and hare have been startled by the approach of the train from their shady coverts. The whole system of cañons has again been visible, extending in immense perspective to the north and east.

## CHAPTER VIII.

### COLORADO PLATEAU, NEAR BIG CANON.

Cedar forest. — Desertion of Hualpais guides. — Pine forest. — Lost man. — Snow storm. — Entrance to forest. — Tempest. — Camp in the snow. — Forest lagoons. — Summit of plateau. — San Francisco mountain and other volcanic peaks. — Stampede of animals. — Entrance to side cañon. — Obstacles encountered. — Dizzy pathway. — Cataract cañon precipice. — Return to plateau. — Reconnaissance 16, Cataract cañon. — Cataract creek. — Yampais village. — A night in the cañon. — Final departure from lagoons. — Crossing the desert. — Long travel without water. — Partridge ravine. — Grizzly bear.— Appearance of country in volcanic region. — Mount Floyd.

*Camp 71, Pine forest, April 10.*—Four miles from the camp, in the Cedar forest, were some large pools of water in a rocky ravine. There was no spring. The supply had been derived from melting snows, and the place would be dry a little later in the season. The Hualpais seated themselves upon the ground as though they had made up their minds to camp. I questioned them as well as I could about the marches ahead, and they assured me that no more water would be found for three days. This did not agree with a former statement, but they adhered positively to it, and it was possible that it might be true. We thought it better, therefore, to go no further. The next morning

the Hualpais were missing. They had run away during the night, taking with them a little flour and a pair of blankets. It was expected that many of the mules would be missing. They were at once counted, but the number was found to be correct. What had frightened the guides off we could not imagine. I was sorry they had deserted, for the presence of some one that could be relied upon to point out the watering places had prevented a great deal of anxiety.

We had now entered the region of the pines. The growth was thicker, and trees of considerable size began to be mingled with the low cedars. The ascent from the Hualpais spring, though gradual, had been rapid, and the barometer indicated an altitude of about six thousand feet. The increase of elevation was felt very sensibly in the changed temperature, which had become wintry and raw.

For the first time black-tailed deer were seen, and some of the soldiers took advantage of the early arrival at camp to go out hunting. One of them had not returned at dark, and two days passed before he was found. Signal fires by night and smokes by day were kept up, and searching parties scoured the country in every direction. A light snow storm, that occurred the night after the man's disappearance, had covered up his footprints and made it impossible to follow him. During the storm he wandered to a great distance from camp, and when the snow melted there was a break in the trail which it was difficult for our most experienced trailers, the Mexicans, to connect. They at last got on the track, at a time when the man was completely bewildered, and by mere accident was travelling in the right course. He had given himself up for lost, and was wandering in a state of desperation bordering on insanity, when he happened to see one of the signal smokes, and followed its direction to camp, which the Mexicans reached an hour afterwards, having traced him over the whole line he had pursued since his departure.

The next day an early start was made. We had to select our own way through the forest, being for the first time without the guidance of those who were familiar with the country, and what was more important, in this arid region, with the whereabouts of watering places. It was an unfortunate morning for the experiment. Dark clouds covered the sky, and masses of mist were drifting through the glades of the forest, enveloping the landscape in obscurity. We held a course a little east of north. The pine trees became larger and the forest more dense as we proceeded. A heavy gale roared among the branches overhead, and about noon it commenced snowing. For some time we kept at the bottom of a ravine that afforded a partial shelter from the blast, but the surface of the ground was rough, and the snow fell so thick and fast that it was impossible to select the way.

Ascending to the table-land, we happened upon an open portion of the forest and encountered the full violence of the storm. The fall of snow was accompanied with thunder and lightning, an unusual phenomenon at such a time. The flashes were vivid, and the reverberations loud and frequent. The scene would have been beautiful had it not been so thoroughly uncomfortable. The storm at last became so vehement that we were unable to proceed. Men and mules huddled together under such trees as afforded the best shelter, and waited as resignedly as possible till the future of



the tempest had somewhat abated. The day was nearly spent; the packs were therefore taken off, camp made, fires kindled, and the mules driven into a ravine. About sunset it promised to clear off, but the clouds reassembled, the wind and sleet again drove past, and the night was bleak and raw. The unfortunate mules, benumbed with cold, stood shuddering about the fires that were made in the ravine. The sudden change from hot summer weather was a severe test of endurance, and there was danger that in their weak condition they would not be able to stand it. The snow and the gale continued nearly all of the next day. The grass was entirely covered. The animals had to fast for twenty-four hours longer, and I thought that last night would have finished the majority of them, but singularly enough not one has died.

This morning the sky was cloudless and the wind had abated. When the sun rose it became as warm as it had been in the Mojave valley, and the snow melted even more rapidly than it had fallen.

Our altitude is very great. During the last march the ascent was continuous, and the barometer shows an elevation of nearly seven thousand feet. A still higher plateau rises towards the north. The Colorado is not far distant, and we must be opposite to the most stupendous part of the “Big Cañon.” The bluffs are in view, but the intervening country is cut up by side cañons and cross ravines, and no place has yet been seen that presents a favorable approach to the gigantic chasm.

*Camp 73 [72], Colorado plateau, April 12*—Two miles beyond the snow camp some lagoons were discovered—one of them large enough to be called a pond. I recognized the place as having been described by the Hualpais to Ireteba, but of the position I had not been able to form a correct idea. As we advanced towards the northeast, long undulating swells followed each other and intercepted the view. The snow storm had extended over but a limited area, and the road, at first heavy, in the course of an hour or two became dry and good. The pines disappeared, and the cedars gradually diminished. To our regret the patches of grass also were less frequently met with, and the little seen was of poor quality. Each slope surmounted disclosed a new summit similar to that just passed, till the end of ten miles, when the highest part of the plateau was attained, and a sublime spectacle lay spread before us.

Towards the north was the field of plateaus and cañons, already seen and described, and shooting out from these a line of magnificent bluffs, extending eastward an enormous distance, marked the course of the cañon of the Little Colorado.<sup>68</sup> Further south, eighty miles distant, towered the vast pile of the San Francisco mountain, its conical summit covered with snow, and sharply defined against the sky. Several other peaks were visible a little to the right, and half way between us and this cluster of venerable and mighty volcanos [*sic*] was the “Red Butte,” described

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<sup>68</sup> The assumption was of course mistaken, the Little Colorado River actually still being much farther to the east; it was in fact the main Colorado. It is this perspective that was also recorded on Egloffstein’s map. Other comments made by Ives reflect the same view, and likewise Möllhausen’s perspectives reflect this.

by Lieutenant Whipple, standing in isolated prominence upon the level plain. On the north side of the Colorado appeared a short range of mountains, close to the cañon, which had been previously hidden by the intervening plateaus.

A march of twenty miles having been made, and no sign of water appearing, we had to put up with a dry camp. The grass was miserable, and altogether the mules fared badly. During the night the herders were negligent, and at daybreak nearly a hundred of the animals were missing. They had taken the back trail for the lagoons, but having started late and travelled leisurely were overtaken not many miles from camp. The trip did not render them better fitted for the day's journey, which had to be delayed until they were brought back.

The sun was oppressively warm, and every place whose appearance gave promise of water was carefully searched, but without success. Ten miles conducted to the head of a ravine, down which was a well-beaten Indian trail.<sup>69</sup> There was every prospect therefore that we were approaching a settlement similar to that of the Hualpais, on Diamond river. The descent was more rapid than the former had been, and in the course of a few miles we had gone down into the plateau one or two thousand feet, and the bluffs on either side had assumed stupendous proportions. Still no signs of habitations were visible. The worn-out and thirsty beasts had begun to flag, when we were brought to a stand still by a fall a hundred feet deep in the bottom of the cañon. At the brink of the precipice was an overhanging ledge of rock, from which we could look down as into a well upon the continuation of the gorge far below. The break reached completely across the ravine, and the side walls were nearly perpendicular. There was no egress in that direction, and it seemed a marvel that a trail should be found leading to a place where there was nothing to do but to return. A closer inspection showed that the trail still continued along the cañon, traversing horizontally the face of the right hand bluff. A short distance off it seemed as though a mountain goat could scarcely keep its footing upon the slight indentation that appeared like a thread attached to the rocky wall, but a trial proved that the path, though narrow and dizzy, had been cut with some care into the surface of the cliff, and afforded a foothold level and broad enough both for men and animals. I rode upon it first, and the rest of the party and the train followed—one by one—looking very much like a row of insects crawling upon the side of a building. We proceeded for nearly a mile along this singular pathway, which preserved its horizontal direction. The bottom of the cañon meanwhile had been rapidly descending, and there were two or three falls where it dropped a hundred feet at a time, thus greatly increasing the depth of the chasm. The change had taken place so gradually that I was not sensible of it, till glancing down the side of my mule I found that he was walking within three inches of the brink of a sheer gulf a thousand feet deep; on the other side, nearly touching my knee, was an almost vertical wall rising to an enormous altitude. The sight made my head swim, and I dismounted and got ahead of the mule, a difficult and delicate operation,

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<sup>69</sup> This marks the expedition's entrance into Cataract Canyon (Havasut Canyon).

which I was thankful to have safely performed. A part of the men became so giddy that they were obliged to creep upon their hands and knees, being unable to walk or stand. In some places there was barely room to walk, and a slight deviation in a step would have precipitated one into the frightful abyss. I was a good deal alarmed lest some obstacle should be encountered that would make it impossible to go ahead, for it was certainly impracticable to return. After an interval of uncomfortable suspense the face of the rock made an angle, and just beyond the turn was a projection from the main wall with a surface fifteen or twenty yards square that would afford a foothold. The continuation of the wall was perfectly vertical, so that the trail could no longer follow it, and we found that the path descended the steep face of the cliff to the bottom of the cañon. It was a desperate road to traverse, but located with a good deal of skill—zigzagging down the precipice, and taking advantage of every crevice and fissure that could afford a foothold. It did not take long to discover that no mule could accomplish this descent, and nothing remained but to turn back. We were glad to have even this privilege in our power. The jaded brutes were collected upon the little summit where they could be turned around, and then commenced to re-perform the hazardous journey. The sun shone directly into the cañon, and the glare reflected from the walls made the heat intolerable. The disappointed beasts, now two days without water, with glassy eyes and protruding tongues, plodded slowly along, uttering the most melancholy cries. The nearest water, of which we had knowledge, was almost thirty miles distant. There was but one chance of saving the train, and after reaching an open portion of the ravine the packs and the saddles were removed, and two or three Mexicans started for the lagoons mounted upon the least exhausted animals, and driving the others loose before them. It was somewhat dangerous to detach them thus far from the main party, but there was no help for it. Some of the mules will doubtless give out before the night march is over, but the knowledge that they are on their way to water will enable most of them to reach it in spite of their weariness and the length of the way.

I gave directions to the Mexican not to return for a couple of days. This will give the beasts time to rest, and afford us an opportunity of exploring the trail beyond the precipice, where we had to stop. Several cañons head near us, all leading into the mighty avenue which forms the main water-way. Each branch has its subordinate tributaries, that interlock with one another, and cut away more than half of the original plateau.

*Camp 73, Colorado plateau, April 14.*—Lieutenant Tipton, Mr. Egloffstein, Mr. Peacock, and myself, with a dozen men, formed the party to explore the cañon. It was about five miles to the precipice. The descent of the latter was accomplished without serious trouble. In one or two places the path traversed smooth inclined ledges, where the insecure footing made the crossing dangerous. The bottom of the cañon, which from the summit looked smooth, was covered with hills, thirty or forty feet high. Along the centre we were surprised to find an inner cañon, a kind of under cellar, with low walls at the starting point, which were soon converted into lofty precipices, as the base of the ravine sank deeper and deeper into the earth. Along the bottom of this gorge we followed

the trail, distinctly seen when the surface was not covered with rocks. Every few moments, low falls and ledges, which we had to jump or slide down, were met with, till there had accumulated a formidable number of obstacles to be encountered in returning. Like other cañons, it was circuitous, and at each turn we were impatient to find something novel or interesting. We were deeper in the bowels of the earth than we had ever been before, and surrounded by walls and towers of such imposing dimensions that it would be useless to attempt describing them; but the effects of magnitude had begun to pall, and the walk from the foot of the precipice was monotonously dull; no sign of life could be discerned above or below. At the end of thirteen miles from the precipice an obstacle presented itself that there seemed to be no possibility of overcoming. A stone slab, reaching from one side of the cañon to the other, terminated the plane which we were descending. Looking over the edge it appeared that the next level was forty feet below. This time there was no trail along the side bluffs, for these were smooth and perpendicular. A spring of water rose from the bed of the cañon not far above, and trickled over the ledge, forming a pretty cascade. It was supposed that the Indians must have come to this point merely to procure water, but this theory was not altogether satisfactory, and we sat down upon the rocks to discuss the matter.

Mr. Egloffstein lay down by the side of the creek, and projecting his head over the ledge to watch the cascade, discovered a solution of the mystery. Below the shelving rock, and hidden by it and the fall, stood a crazy looking ladder, made of rough sticks bound together with thongs of bark. It was almost perpendicular, and rested upon a bed of angular stones. The rounds had become rotten from the incessant flow of water. Mr. Egloffstein, anxious to have the first view of what was below, scrambled over the ledge and got his feet upon the upper round. Being a solid weight, he was too much for the insecure fabric, which commenced giving way. One side fortunately stood firm, and holding on to this with a tight grip, he made a precipitate descent. The other side and all the rounds broke loose and accompanied him to the bottom in a general crash, effectually cutting off the communication. Leaving us to devise means of getting him back he ran to the bend to explore. The bottom of the cañon had been reached. He found that he was at the edge of a stream, ten or fifteen yards wide, fringed with cottonwoods and willows. The walls of the cañon spread out for a short distance, leaving room for a narrow belt of bottom land, on which were fields of corn and a few scattered huts.

A place was found near the ledge where one could clamber a little way up the wall, and we thus got a view of the valley. The river was nearly as large as the Gila at low water, and, with the exception of that stream, the most important tributary of the Colorado between its mouth and our position. The cañon Mr. Egloffstein saw could not be followed far; there were cascades just below. He perceived, however, that he was very near to its mouth, though perhaps at a thousand feet greater altitude, and an Indian pointed out the exact spot where it united with the cañon of the Rio Colorado.

The Yampais [Havasupai] did not differ much from the Hualpais in general appearance. They were perhaps a trifle cleaner and more respectable. It is probable that, all told, they do not number more than two hundred persons. One of them accompanied Mr. Egloffstein to the foot of the ledge, and intimated a willingness to go with us to camp, but when he saw the broken ladder gave up his intention. The accident did not appear otherwise to concern him. There must have been some other trail leading to the retreat, for the use of the ladder had evidently been long abandoned.

Having looked at all that was to be seen, it now remained to get Mr. Egloffstein back. The slings upon the soldiers' muskets were taken off and knotted together, and a line thus made which reached to the bottom. Whether it would support his weight was a matter of experiment. The general impression was that it would not, but of the two evils—breaking his neck or remaining among the Yampais—he preferred the former, and fastened the strap around his shoulders. It was a hard straight lift. The ladder pole was left, and rendered great assistance both to us and the rope, and the ascent was safely accomplished. We invited the Indian to follow Mr. Egloffstein's example, but this he energetically declined.<sup>70</sup> The examination being finished, it was time to return. On leaving camp we had expected to be back before night, and had brought along neither provisions nor overcoats. An hour or two earlier, finding that the day was rapidly slipping by, two of the party were directed to go back and tell those who had remained that we might be detained till the next day, and in that case to forward in the morning something to eat. We walked as fast as possible, in order to get out of the cañon before dark, but the ascent was laborious, and the trail, made in coming down over the rocks, difficult to follow. Numerous branch cañons, all looking alike, would have rendered it easy to become lost had the trail been once departed from. Night came before the foot of the precipice where the train had stopped was reached. It was impossible to distinguish the way in the dark, and we had to halt. A few minutes previously the tracks of the two men that had been sent ahead had been noticed diverging from the proper course, and it was concluded that they were wandering astray somewhere in the labyrinth. After nightfall, as is always the case in these regions, it became bleak and cold. Some of the party, attired for a walk under a hot sun, had not even their coats. The cañon was dark as a dungeon. The surface of the ground being covered with rocks, a recumbent position was uncomfortable, and the rocks being interspersed with prickly pear and some other varieties of cataceæ it would have been unwise to walk about. The choice, therefore, lay between sitting down and standing still, which two recreations we essayed alternately for twelve hours that might have been, from the sensations of the party, twelve days. As soon as it was light enough to see the way we put our stiffened limbs in motion. Climbing the precipice was severe work. The summit once attained, it was but five miles to camp, but the violent exercise of the ascent, coming after a twenty-four hours' abstinence from food and rest, and a walk of more than thirty miles over a difficult road, proved so exhausting that, during the last stretch, two or

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<sup>70</sup> The report of Egloffstein's misadventure is described quite differently in Möllhausen's shorter, second-hand rendition (see p. 69 herein).

three of the men broke down, and had to have coffee and food sent back to them before they could proceed.

The messengers, as expected, had not arrived, and our non-return had occasioned some anxiety. The Mexicans were immediately despatched in search of the missing men. Directions had been given that if at any time a person should perceive that he was lost, he should wait quietly in one place for the arrival of the searching party. The two men had had the nerve to follow this plan, and, as soon as they were convinced of the hopelessness of finding the lost path, had selected a comfortable place and patiently waited during the rest of the day, all night, and till noon of the following day, when the Mexicans found them. Their trail could scarcely have been traced for any great distance over the rocks, and had they continued wandering through the mazes of the cañons they would probably have never again been heard from.

The region east of camp has been examined to-day. The extent and magnitude of the system of cañons in that direction is astounding. The plateau is cut into shreds by these gigantic chasms, and resembles a vast ruin. Belts of country miles in width have been swept away, leaving only isolated mountains standing in the gap. Fissures so profound that the eye cannot penetrate their depths are separated by walls whose thickness one can almost span, and slender spires that seem tottering upon their bases shoot up thousands of feet from the vaults below.

Towards the southeast, also, for a great distance, the surface is furrowed by these abysses. They appear to extend nearly to the San Francisco mountains, and bar all progress eastward. Northward we can proceed no further, and the only course is to go back to the nearest water as a starting point, and from thence strike south, and, heading these formidable barriers, cross Flax river, and again travel north upon the opposite side of that stream.

The mules were brought back this evening; only two were lost; the others reached the Lagoon. To-morrow morning we shall return to that place, and after making an examination of the cañons northwest of the trail proceed to follow the remaining route now open to us.

*Camp 74, Forest lagoons, April 18.*—Midway between the last camp and the lagoons, a trail was encountered leading toward another point of the Big cañon. With a small detachment I left the main party and followed its course. It headed directly for the north side mountains—the peaks already spoken of as seen upon the opposite bank of the Colorado. We travelled till dark; the trail ended near some deserted huts that resembled those seen at the Yampais village; they were in the midst of a pine grove; there was no water in the neighborhood, and the Yampais, who doubtless make this place their summer resort, must be compelled to send to the bottom of the cañon for their supply.

The country became rough and so much cut up by ravines that it was impossible to approach very closely the main river. A good view was obtained of the walls of the Flax river cañon, and its mouth approximately located. The junction was below the mouth of Cascade [Cataract] creek,



showing that that stream is not, as had been supposed, a tributary of the Colorado, but of its smaller affluent.

We had to camp without water, and it being the second day that the animals had had nothing to drink, a great part of them broke from the herders as soon as their saddles were removed, and made a stampede for the lagoons. Barely enough were left to pack the few articles that had been brought.

Another reconnaissance has since been made on foot from the lagoons westward. A line thirty miles in extent was traversed, with results similar to those previously obtained. An excellent view was had of the Big cañon. The barometric observations upon the surface of the plateau and at the mouths of Diamond and Cataract rivers, showed that the walls of this portion of the cañon were over a mile high. The formation of the ground was such that the eye could not follow them the whole distance to the bottom; but as far down as they could be traced they appeared almost vertical. A sketch taken upon the spot by Mr. Egloffstein does better justice than any description can do to the marvellous [*sic*] scene.

Our reconnoitering parties have now been out in all directions, and everywhere have been headed off by impassable obstacles. The positions of the main water-courses have been determined with considerable accuracy. The region last explored is, of course, altogether valueless. It can be approached only from the south, and after entering it there is nothing to do but to leave. Ours has been the first, and will doubtless be the last, party of whites to visit this profitless locality. It seems intended by nature that the Colorado river, along the greater portion of its lonely and majestic way, shall be forever unvisited and undisturbed. The handful of Indians that inhabit the sequestered retreats where we discovered them have probably remained in the same condition, and of the same number, for centuries. The country could not support a large population, and by some provision of nature they have ceased to multiply. The deer, the antelope, the birds, even the smaller reptiles, all of which frequent the adjacent territory, have deserted this uninhabitable district. Excepting when the melting snows send their annual torrents through the avenues of the Colorado, conveying with them sound and motion, these dismal abysses, and the arid table-lands that enclose them, are left, as they have been for ages, in unbroken solitude and silence. The lagoons by the side of which we are encamped furnish, as far as we have been able to discover, the only accessible watering place west [*sic*] of the mouth of Diamond river. During the summer it is probable they are dry, and that no water exists upon the whole of the Colorado plateau. We start for the south with some anxiety, not knowing how long it may be before water will be again met with.

*[The remainder of the chapter is omitted here, the expedition having departed from the immediate Grand Canyon area. After this paragraph, Ives next continued with a journal entry written at "Camp 77, Partridge ravine, April 21."]*





## RAVEN'S PERCH MEDIA

COLORADO EXPLORING EXPEDITION.

GENERAL REPORT - PLATE VII



J. J. YOUNG, from a sketch by H. B. MÖLLHAUSEN.

Lith. of S. Strong, Major & Knapp, 449 Broadway, N.Y.

CAMP - COLORADO PLATEAU

The RAVEN'S PERCH MEDIA colophon is derived from original artwork by **Balduin Möllhausen**. It recalls this bird's habit of gathering and caching objects, with a personal appreciation for its mischievously intelligent interactions with its kind and humans alike. It is a fine detail from the lithograph delineated by J. J. Young that is "General Report Plate VII" in Joseph C. Ives' *Report Upon the Colorado River of the West, Explored in 1857 and 1858* (Washington, 1861), which depicts a wintry camp just south of the Grand Canyon. The scene was sketched and described by Möllhausen on April 10, 1858, while he was perched in a nearby tree (p. 57 herein). He noted (in translation here), "a couple of ravens croaked morosely on the bare branches of a dried-up fir tree as they waited impatiently for our departure, so that they could scout around the abandoned camp site for fat morsels." The original watercolor painting is now in the Amon Carter Museum of American Art (Fort Worth, Texas) (see <https://www.cartermuseum.org/collection/character-high-table-lands-1988146>).

Raven's Perch Media was created in 2018, but Möllhausen's remarks on this very scene were not discovered until this translation was made.

— E. E. S.

