XVII

MOUNT WHITNEY

We left Clarence King in June, 1871, standing on the summit of the peak that he supposed to be Mount Whitney, immensely pleased with himself. For two years he enjoyed the satisfaction of believing that he had reached the highest point in the United States. Neither he nor anyone else doubted that Mount Whitney had been climbed. Then came a shock. At a meeting of the California Academy of Sciences, August 4, 1873 (Professor J. D. Whitney in the chair), a paper was read by W. A. Goodyear "On the Situation and Altitude of Mount Whitney."[1] He came directly to the point: "On the 27th day of July, 1873, Mr. M. W. Belshaw and myself rode our mules to the highest crest of the peak southwest of Lone Pine, which for over three years has been known by the name of Mount Whitney and which was ascended and measured as such by Mr. Clarence King. I know this peak well, and cannot be mistaken in its identity." Moreover, he found King's record on the summit. "I do not mention the fact that Mr. Belshaw and myself reached the summit in the saddle as being one of any new or special interest, for Mr. Sheriff Mulkey, of Inyo County, accomplished the same thing on the 6th day of August, 1872, with his wife and daughter, and since that time it has also been done by several other parties." Then came the astonishing statement: "*This peak is not Mount Whitney*." Goodyear went on to prove that another peak five or six miles away, and considerably higher, was the one named by the Brewer party in 1864. "Certain it is," he said, "that the peak which for over three years has borne the name of Whitney, has done so only by mistake, and that a new name must be found for it; while the name of Whitney must now go back to the peak to which it was originally given in 1864, and which is, in reality, the highest and grandest of this culminating cluster of the Sierra Nevada. It is safe to say that no man will ever ride a horse or mule to the summit of *that* peak, unless it be by a costly as well as dangerous trail.[2] Whether the peak is utterly inaccessible or not, is still a question. I am disposed to think that it can be climbed; but it will certainly involve a great deal of hard and, very possibly, some dangerous work for anybody who shall attempt to reach its gigantic crest."

When Clarence King received this disconcerting news in the East he was naturally greatly surprised and disappointed. He hastened to California, engaged two men at Visalia to accompany him, and was soon riding over the

familiar Hockett Trail to the Kern. At eleven o'clock in the morning of September 19, 1873, he stood at last on the summit of the true Mount Whitney. But, alas for him, he was too late for the first ascent. On the summit he found a monument and the records of two preceding parties, "the first, Messrs. Hunter and Crapo, and afterwards Rabe, of the Geological Survey. The former were, save Indians hunters, the first, so far as we know, who achieved this dominating summit."[3] This statement sounds definite and final. But it was not correct, Unfortunately it became imbedded in King's *Mountaineering in the Sierra Nevada*, with its wide and enduring circulation, and it took years to set the record straight. King at that time was in a position to ascertain the facts, and it seems rather unfair that he should have passed so lightly over the matter of the first ascent, especially since he had attached some importance to the honor while he himself was seeking it.

To whom, then, should the honor go? It is not easy to say, for one has to evaluate the claims, counterclaims, and accusations that for several months scorched the pages of the local newspaper, the *Inyo Independent*.[4] There emerges, however, what seems to be the true story of the first ascent of Mount Whitney. In the summer of 1873 a jolly party of residents of Lone Pine was encamped at Soda Springs in Kern Canyon, to "recuperate from the heat of Owens Valley" and indulge in fishing and other sports. Sheriff Mulkey and his wife and daughter Mattie were among those present. Three members of the party, Charley Begole, Johnny Lucas, and Al Johnson "took a trip to the summit of the highest mountain in the range, and christened it Fisherman's Peak," wrote the *Independent's* correspondent. "Some people are now trying to take the credit of their being the first there away from them, but they won't succeed. Prof. Whitney's agent finds fault with the people here for their lack of romance in calling it 'Fisherman's Peak.' Ain't it as romantic as 'Whitney'? The fishermen who found it looked mighty romantic on their return to Soda Springs. Wonder who the old earthquake sharp thinks is running this country, anyhow?"

The ascent can be followed fairly well from the newspaper accounts. The Fishermen, Begole, Johnson, and Lucas, rode up from the Soda Springs camp in Kern Canyon to the base of the false Mount Whitney and climbed it on August 17. From the summit they could see that the other peak was the higher, and they resolved to go to its top. Returning to their horses, they rode down Rock Creek for several miles, then up a steep ravine to the north, with a bald peak (Mount Guyot) on the west. They followed the right-hand ravine for a mile or two, then rode up the northeast fork to "Ramshorn Springs," where they camped. At daylight next morning they left their horses and took a northeasterly direction to the top of a ridge. Finding no way to get down, they followed the ridge to a pass that brought them down and around a lake. They made for a red streak crossing the next ridge and at the foot of this

pass came to another lake. The route to their goal was now in front of them. Up the southwestern side of the mountain they climbed, over serrated crests of rocky "ribs," and at noon of August 18, 1873, the three Fishermen stood on the summit of the true Mount Whitney. They built a monument to commemorate the event and named it "Fisherman's Peak."

The story of the Fishermen was promptly challenged by Tom McDonough, of Cerro Gordo, who asserted in a letter to the *Independent* that "they was never on the mountain and that Abe Leyda, Wm. Crapo, Mr. Rabe, W. L. Hunter and myself are the only persons that ever were on the summit." Crapo also attacked the Fishermen's story. He declared that the Fishermen's peak and the true Mount Whitney could not be the same. He called them "itinerant climbers" and "the inimitable three." Crapo claimed that he and Abe Leyda were on the summit August 15 and had made barometer observations at that time. The date is certainly wrong, and it is most unlikely that they had a barometer. It does seem likely, however, that Crapo and Leyda were on the summit soon after the Fishermen and that they may be credited with the second ascent.

A fully authenticated account now appears in the record. Belshaw, who had been with Goodyear on the false Mount Whitney the preceding July, organized an expedition to determine the facts about the situation and altitude of the true Mount Whitney. Crapo offered his services as guide; Hunter and McDonough joined the party; and Carl Rabe, a German employed by the Geological Survey as cook, was entrusted with the barometer. Rabe had learned to read the instrument and to perform other duties as assistant to the surveyors while with Hoffmann. For the rest of his long life he took pardonable pride in considering himself a man of science. To him we owe a very circumstantial account of the first "scientific" party to climb Mount Whitney.[5] They took the Hockett Trail from Lone Pine over Cottonwood Pass to "Long Valley" (Whitney Meadows), and after some twenty miles camped at the base of the true Mount Whitney, "a very hard day's work for our animals." Next morning, September 6, they made an early start. "Following my companions in silence," says Rabe, "and keeping a sharp lookout ahead, I at last spied a crevice going up among the crags which seemed to offer a way. This crevice appeared to be about ten feet wide, with a slope of some 45 degrees. Keeping to the larger boulders, I slowly worked my way through it. I found the ascent, though not particularly dangerous, extremely laborious and slow. The light atmosphere at the height of over 13,000 feet was beginning to tell upon my lungs, and I had to stop every fifteen or twenty minutes to rest and breathe. But after an hour and a half of very hard climbing, we stood at last on the crest of Mount Whitney, and I hung my barometer on the monument which had been erected by our predecessors a few days before. Shortly after 2 P.M. we left the summit. In the descent I took a slightly differ-

ent route from the one I had followed in the morning, and after an exhausted tramp of two hours and a half reached our camp, where I found my companions awaiting my return."[6]

Controversy over the Fishermen's ascent continued to rage. McDonough again came to the support of Crapo and Leyda, asserting that the "celebrated Fishermen" could not have done what they said they did in the stated time and were on the wrong mountain. His concluding argument rather weakens his case. "When we were coming home," he says, "Mr. Charley Johnson told and showed Mr. Hunter a different peak altogether, that Al showed him was the one they were on." This merely says that Mr. McDonough learned from Mr. Hunter that Al's brother Charley told Mr. Hunter what Al had told Charley. Verdict for the Fishermen. Case dismissed.

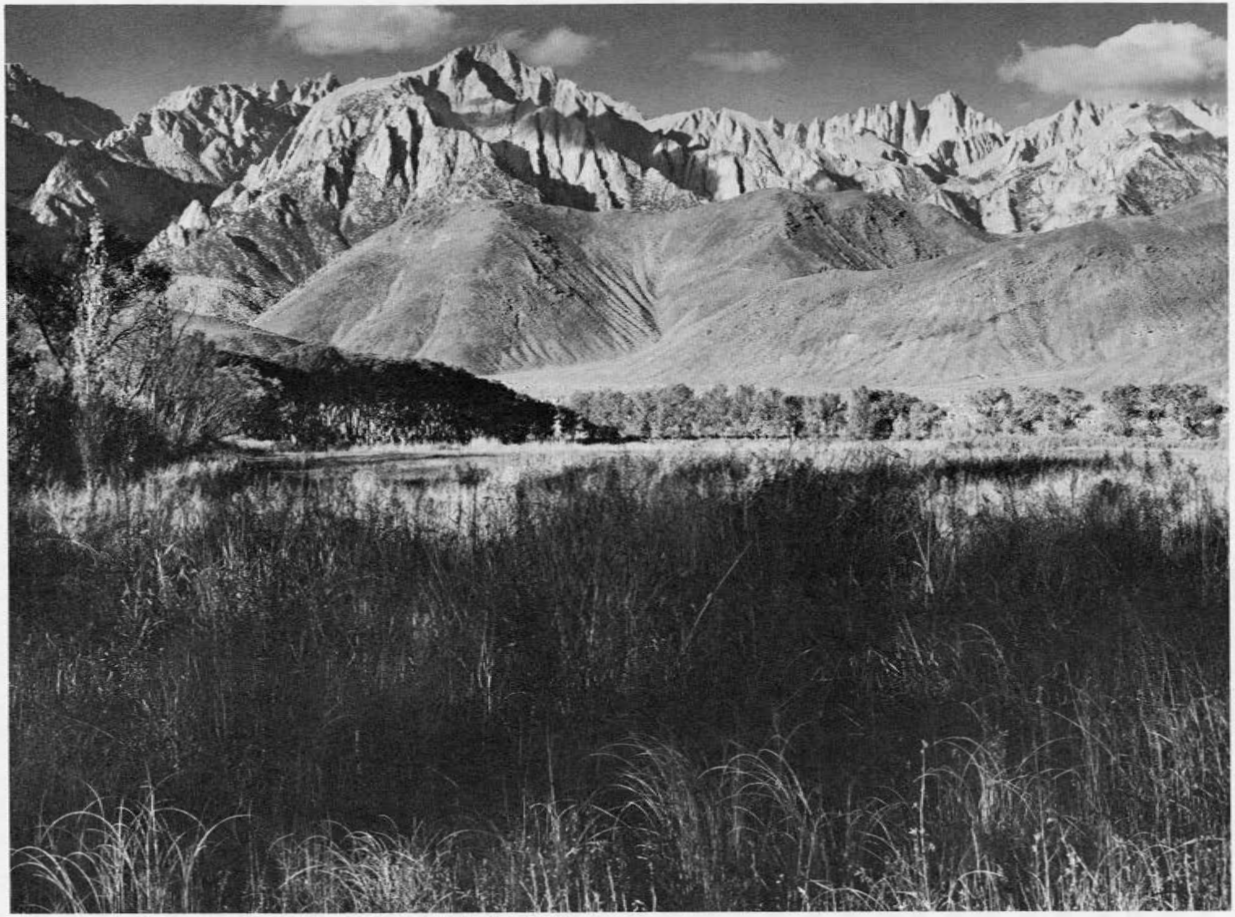
The matter of the name was argued with even greater vehemence. Professor Whitney had made himself unpopular in Owens Valley when he came there in 1872 to examine the scars of the recent earthquake. Consequently, when the mountain which for several years had been known as Mount Whitney proved to be a comparatively inconsequential peak, the local anti-Whitney people were only too glad of an excuse to fix his name permanently on the lesser peak. Further to insure this, when the right of the Fishermen to place their name on the higher peak was challenged, the local press proposed the name "Dome of Inyo." The Fishermen magnanimously acquiesced. But "The Dome" never got beyond local usage and soon died out. Meanwhile Hoffmann corrected the error on his map that had caused all the trouble and moved the name "Mount Whitney" to its rightful position a little farther north. And there it has remained. Not without further threats of dislodgement, however, for when "Dome of Inyo" failed to take hold, the local people went back to "Fisherman's Peak"—anything to get rid of "Whitney." And then, in 1881, an Inyo County assemblyman, Moffat, introduced a bill in the State Legislature to make the name "Fisherman's Peak" official. The bill passed the Assembly, but it reached the Senate on April Fools Day and the jolly senators amended it to read "Fowler's Peak" in honor of one of their colleagues. But neither fish nor fowl prevailed, for the Governor vetoed the bill as frivolous. The name "Mount Whitney" has become an integral part of the mountain, and few people today are concerned about the merits of the old controversy.[7]

At the end of September 1873 the record of ascents of Mount Whitney stood: (1) August 18—Charles D. Begole, Albert H. Johnson, John Lucas; (2) late August—William Crapo, Abe Leyda; (3) September 6—William Crapo, William L. Hunter, Tom McDonough, Carl Rabe; (4) September 19—Clarence King, Frank Knowles. These ascents were made from the southwest, coming north from the Hockett Trail; King and Knowles from Visalia, the others from Lone Pine by way of Cottonwood Pass.

A new epoch begins with the coming of John Muir in October of that

year. When Muir left his companions at the foot of Kearsarge Pass, he rode alone southward along the foot of the range and took the usual route from Lone Pine over Cottonwood Pass. Leaving his horse in a meadow, he climbed the false Mount Whitney and from there saw, as others had done, the higher peak a few miles away. Without delay he ran down, moved his horse to another meadow, and by a very rough way up and down ridges and canyons reached the base of the true Mount Whitney at sunset the same day. As there was no wood for a fire, he made up his mind to spend the night climbing. "I was among summit needles by midnight or 11 o'clock," he writes in his diary.[8] "Had to dance all night to keep from freezing. Was feeble and starving next morning and had to turn back without gaining the top. Was exhausted ere I reached horse and camp and food." He returned to Independence, ate, and slept all next day; then, not to be defeated, "set out afoot for the summit by direct course up the east side." He camped in the sagebrush the first night and next morning made his way up the North Fork of Lone Pine Creek and camped at timberline.[9] On the morning of October 21, at eight o'clock, he was on the summit of Mount Whitney. There he found Clarence King's record and a memento left by Rabe with a note, "Notice Gentleman however is the looky finder of this half a Dollar is wellkom to it Carl Rabe Sep 6th 1873." Muir sketched, gained glorious views, left the half a Dollar where he found it, and descended to the foot of the mountain by the way he came. He was back at Independence next day. Many years later Muir wrote, "For climbers there is a canyon which comes down from the north shoulder of the Whitney peak. Well-seasoned limbs will enjoy the climb of 9000 feet required for this direct route, but soft, succulent people should go the mule way."[10] Should someone of the present generation of mountain climbers feel inclined to make light of John Muir's exploit, let him endeavor to duplicate it, starting from Independence (not Lone Pine) on foot, with or without sleeping bag and modern concentrated foods—Muir had neither.

Muir's second visit to Mount Whitney came two years later. This time he took his two companions with him to the top. He knew the way and could proceed unerringly. He followed his former route up the North Fork of Lone Pine Creek until he came to the final climb. There he made a variation, crossing the main crest a little to the north, and descended to a lake on the western side.[11] They passed along the rocky shores, "gradually climbed higher, mounting in a spiral around the northwest shoulder of the mountain, then directly to the summit." Their arrival was "duly announced by Bayley as soon as he was rested into a whooping condition.[12] Undemonstrative Washburn examined the records of antecedent visitors, then remarked with becoming satisfaction, 'I'm the first and only student visitor to visit this highest land in North America.' "[13] The descent is described by Muir in one sen-



Ansel Adams

Mount Whitney from Lone Pine.

tence: "We left the summit about noon and swooped to the torrid plains before sundown, as if dropping out of the sky."

Another ascent the same year is worthy of note in that it included the first photographer known to have climbed Mount Whitney, W. E. James, of New York. The leader was James M. Hutchings, of Yosemite. Dr. Albert Kellogg, botanist, left behind by Muir two years before, this time reached the top.[14] Al Johnson went along as guide. The *Inyo Independent* took due note of the climb, especially of Hutchings' adventures on the return. "He proposed to take a short cut across the country (if such gigantic, awe-inspiring mountains of rock can be called a country), with a view of intersecting the Kearsarge trail, and a possible ascent of Mount Williamson. Two others of the party volunteered to accompany him. Taking a small supply of 'grub,' but no blankets, the three started afoot, the main party taking the back track. It was expected the three across country gentlemen would reach here (Independence) on the second day." When they did not arrive, a rescue party was sent out. "By the time it had fairly reached the mountains the missing ones came tramping in, weary, footsore, and, oh, how hungry. Instead of a practical route for even expert footmen, they found sheer precipices thousands of feet high cutting square across the proposed line of travel, so that it was simply impossible to proceed in the desired direction. The mountains around appeared to tower as high above them as from this valley. By this time the party were looking for a way to reach the foot, not the top of the mountains."[15]

Although Mount Whitney had been climbed in the first few years of its history by fishermen and others from Inyo County, by Clarence King, by John Muir, by a "scientist," a botanist, a photographer, by Hutchings of Yosemite, and by a college student, it does not appear that any woman reached the top until 1878. In the summer of that year a group of men and women from Porterville, Tulare County, made an expedition to the mountain. One of the four women in the party, Miss Anna Mills (later, as Mrs. Johnston) wrote a reminiscent account of the trip.[16] At the Soda Springs in Kern Canyon they found over thirty people from Inyo County, "as jolly a crowd as one would wish to meet." William Crapo was there and offered to guide the Porterville party to Mount Whitney. They followed the usual route to the base. "Just before reaching camp," writes Mrs. Johnston, "my horse took a notion to jump over a small stream, very unexpectedly to me, and my back was so severely injured that I could hardly step without experiencing severe pain. Having been lame from early childhood, everybody said it would be utterly impossible for me to climb to the summit of Mt. Whitney. But I was not easily discouraged, and had always held to the idea that I could do what other people could—my surplus of determination making up for what I lacked in the power of locomotion. But now at the eleventh hour, like Moses, I had gotten where I could see the promised land, but the chances for getting there

were indeed few. In that hour of anguish I remembered my sins, and carefully walking to an obscure place, away up there so near heaven, where none but God could hear, I knelt, facing the great mountain, and prayed—prayed as I had not for years; prayed with the spirit and the understanding also. When I had finished, the mountain-top seemed closer, and I returned to camp with a much lighter heart." The following day, August 3, 1878, the pain nearly gone, she started on alone ahead of the party in order to rest before the steep portion of the climb. All reached the top without too much difficulty, including the other women, Miss Hope Broughton, Miss Mary Martin, and Mrs. Redd. "The supreme joy I felt," writes Anna Mills Johnston, "when I realized that my prayer had been answered, and that I was at last really standing on the summit of Mount Whitney, knew no bounds. For the time being I forgot that I ever was tired; one glance was enough to compensate for all the trials of the trip."

Not many women climbed mountains in those days, but in August of that year three women were included in a party of eight that made the climb from Lone Pine. They followed substantially the route of the present trail up Lone Pine Creek and over Whitney Pass to Crabtree Meadows, thence up the usual route to the summit.[17]

The year 1881 was important in the annals of Mount Whitney, for it saw the first of a series of expeditions that occupied the summit for scientific observations. Professor Samuel Pierpont Langley, at that time Director of the Allegheny Observatory, near Pittsburgh, Pennsylvania, later Secretary of the Smithsonian Institution and pioneer in airplane development, selected Mount Whitney, on the advice of Clarence King, as a site for conducting observations to determine the amount and quality of the heat sent to the earth by the sun. Professor Langley was assisted by James E. Keeler of the Allegheny Observatory, William C. Day of Johns Hopkins University, and Captain Otho E. Michaelis of Army Ordnance, temporarily detailed to Signal Service. William Crapo was engaged as guide. "Near the upper extremity of Owens Lake (a small dead sea), we got our first sight of Whitney, and in a few miles more reached the little hamlet of Lone Pine, built on a small patch of green.—The outline of Whitney and the neighboring peaks seen from Lone Pine is very extraordinary, the serrated edge and the snow, justifying the name of 'Sierra Nevada'—reaching at nightfall a small meadow whose altitude must have been 8,000 or 9,000 feet—A little farther we found the woods burning over many acres, the fire having been apparently wantonly set by some sheepherders, who are the great destroyers of the timber in this upper region—we finally rose above the entire timber-belt, and reached camp at an elevation of about 12,000 feet, for which an excellent site had been chosen by Mr. Crapo." The pack train with the instruments was delayed, seriously shortening the time available for observations. Professor Langley went to the sum-

mit for the first time on August 22. "The sky," he noted, "is of the most deep violet blue, such as we never, under any circumstances see near sea-level. It is an incomparably beautiful sky for the observer's purposes, such as I have not seen equaled elsewhere." "The top of Whitney," he remarks, "is an area of perhaps three to four acres, nearly level, or with a slight downward slope toward the west. Stone for the erection of permanent buildings is here in unlimited quantity." On the descent he noticed "parts of great tree-trunks, some eight or ten feet long, evidently very old, lying on the naked boulders, without the slightest trace of vegetation within a mile or any sign to show how they came there. I afterward found these isolated trunks elsewhere, and it seems clear that they are relics of a remote day, when the forest grew 2,000 feet higher than it does at present."[18]

On September 2 Captain Michaelis and two or three others carried supplies and a tent to the summit, intending to stay for several days, but early the next morning they made their appearance back in camp, "reporting that they had passed a sleepless night, without shelter or warmth, the wind being so high that they could not pitch the tent, while the quarter-cord of wood, carried up with great difficulty, had been all burned up in a vain effort to keep warm." In this manner was passed the first overnight occupancy of Mount Whitney. Notwithstanding the hardships involved, the summit was occupied again on the night of the 4th and valuable observations were made. But the season was too far advanced, and at the end of a week Langley decided to break camp. "We had, by hard struggling, and in spite of adverse circumstances," he writes, "secured what seemed most essential to our purpose, and though we had not done all we had hoped to do, we had done more than at one time seemed possible." So, with Michaelis, Keeler, and Day, and with Johnson (presumably Al, of the first ascent) as guide, Langley set out on foot for Lone Pine "by the direct descent down Lone Pine Creek." "This day," says Langley, "will always live in my memory. We first ascended for over two hours, past snow-cliffs and along the frozen lakes in the northern shadow of Whitney Peak, and then passing through a defile in the rocks, so narrow that only one person could traverse it at a time, we suddenly found ourselves on the other side of the ridge—so suddenly that we were startled as we looked down as through a window from our wintry height, to the desert, and the bright green of the oases far below, in a climate where it was still summer." This was unmistakably the route that Muir had used six years earlier with Bayley and Washburn, joining his other route, the "Mountaineer's Route" of Clyde, at what is now known as East Face Lake.

In conclusion, Langley says, "I hope I have made plain my own belief that Mount Whitney is an excellent station for the purpose for which it was chosen. The great drawback in our case was the inability to remain at the very summit, for to do this requires a permanent shelter. It is most earnestly

hoped that something more than a mere ordinary meteorological station will be finally erected here, and that the almost unequaled advantages of this site will be developed by the Government."

It was a good many years before Professor Langley's hopes were realized. In the summer of 1903 Dr. Alexander G. McAdie, of the United States Weather Bureau, visited the summit and reported to the chief of the Bureau that "Mt. Whitney, of all the extremely high peaks of the Pacific Coast is probably most suited for a meteorological observatory."[19] Although McAdie's recommendations were not acted upon by the Weather Bureau, his report led ultimately to a series of expeditions under the auspices of the Smithsonian Institution. Meanwhile the people of Lone Pine realized that a pack-train trail to the summit was necessary. On July 22, 1904, G. F. Marsh, of Lone Pine, wrote to Dr. McAdie, "I'm glad to inform you that we completed the pack trail to the summit of Mt. Whitney last Sunday. We had three pack-trains loaded with wood, and one saddle horse. We had a large fire at night, and fireworks which were plainly seen at Lone Pine. The pack-train had no difficulty in climbing the mountain. The trail is in good shape and parties are going over it every day."[20]

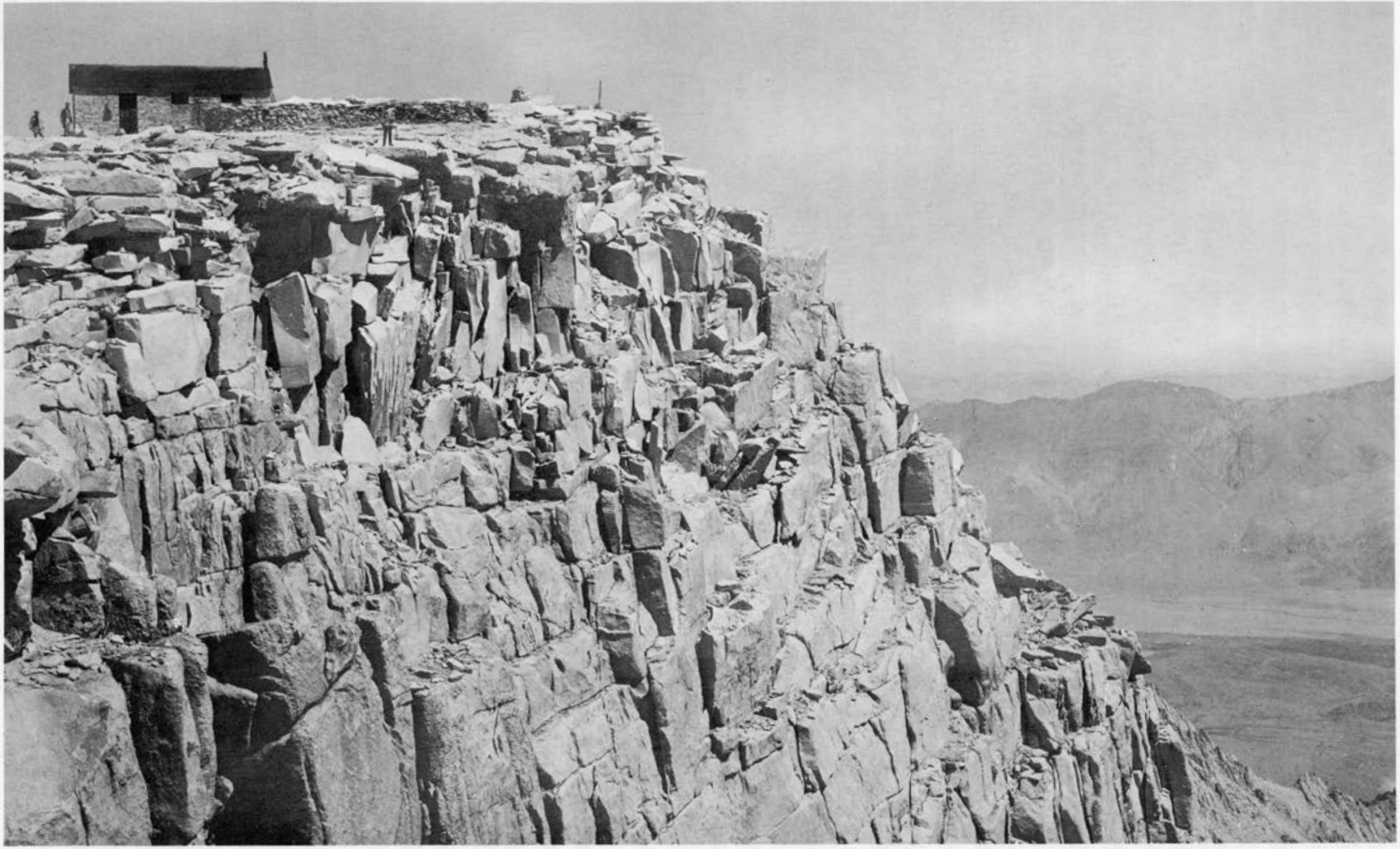
One of the first parties to use the western portion of the new trail was that of Dr. Warren Barton Evermann, at that time chief of the Division of Scientific Inquiry, United States Bureau of Fisheries, engaged in investigating the Golden Trout of the Kern River region. While they were on the summit on July 26, 1904, a thunderstorm gathered and lightning began to flash. As they were eating their luncheon, three of the party were knocked down by an electrical discharge. Dr. Evermann and Dr. Jenkins were not injured, but the third, Byrd Surby, whose feet were apparently wet from the snow, was killed outright. So far as the records show this was the first and only fatality on the summit of Mount Whitney.[21]

A curious by-product of the Langley expedition was the establishment of the Mount Whitney Military Reservation, on September 26, 1883, setting aside land which included Mount Williamson on the north, Sheep Mountain on the south, and the eastern slope of Whitney almost as far as Lone Pine. There the matter stood for twenty years, until some prospectors who were denied access to the foothills pressed an inquiry by the Army General Staff to determine the need of the reservation for military purposes. It turned out that the tract had been set aside "ostensibly for military, in reality for scientific purposes," while the Weather Bureau was attached to the Signal Corps in the War Department. When the Weather Bureau was transferred to the Department of Agriculture, the military reservation was forgotten and no one in Washington seemed to be aware of its existence. The War Department, having assured itself of the safety of the country without the aid of the reservation, relinquished it.[22]

In due time the summit of Mount Whitney was again sought as a site for observations. Dr. William Wallace Campbell, of the University of California's Lick Observatory, on Mount Hamilton, had long been interested in the spectrum of Mars, "for the purpose of detecting the presence of water vapor." "I realized," he says, "that the water in the Earth's atmosphere is the greatest obstacle in the way of success." An altitude of over 14,000 feet would reduce this substantially. In August and September, 1909, Mars would be near the Earth and high above the horizon. Dr. Charles G. Abbot of the Smithsonian Institution was also interested in the summit of Mount Whitney for the purpose of continuing Professor Langley's studies of solar radiation. So, late in August, 1908, Campbell and Abbot climbed the mountain to make preparations for the following year. They remained all night on the summit, and "because of physical fatigue, reduced vitality, mountain sickness, and exposure to wind, the night was not spent in comfort." Dr. Campbell decided that before any extended residence could take place it was necessary to have a building of some kind as a shelter in case of a storm. He proceeded to draw up plans and specifications for "a three-room hut with stone walls and steel roof and doors, to be used not primarily as an observatory, although it might be convenient to use a part of it occasionally as a dark-room for photography, but rather as a shelter and living quarters for observers in any branch of science."[23]

Before construction could begin it was necessary to rebuild the trail, which had become badly out of repair since 1904. Marsh undertook the job once more. A ball was held in Lone Pine which netted a considerable sum. Work was begun as early in the spring as conditions permitted. On July 28, 1909, the first mule train of the season reached the top and work was begun on the stone house, for which Marsh was also the contractor. In spite of difficulties the work was practically completed by the end of August, when the scientific party arrived. Dr. Abbot writes, "Marsh worked at all kinds of jobs himself—cooking, breaking stone, carrying stone, carrying snow for water, riveting and cementing, as well as general bossing. He will never get paid in this world for the work he did on that house."

The results achieved by all parties were eminently satisfactory, although Dr. Abbot was unable to complete his observations on account of storms, and was obliged to come back the next year. Dr. Campbell reported perfect atmospheric conditions on the nights of September 1 and 2. He reached the conclusion that "the quantity of any water vapor existing in the equatorial atmosphere of Mars at the time these observations were made was too slight to be detected by present spectrographic methods." Dr. McAdie obtained continuous records of pressure, humidity, and temperature for the entire period. Reminiscing some years later, McAdie wrote: "The season was a rainy one. We had some five out of seven rainy days. We had thunderstorms *below*



Observatory cabin on summit of Mount Whitney.

us. On one occasion the hairs on the burros stood out straight, I think if the storm had been a trifle more intense there would have been four or five dead astronomers on the summit."[24]

In 1913 the shelter was again put to use by a Smithsonian expedition, under Anders Angström, of Uppsala, Sweden, for the purpose of studying the radiation of the atmosphere. W. R. Gregg, of the U. S. Weather Bureau, made explorations of the upper air by means of captive balloons, "probably the first that have been carried on by captive balloons at altitudes exceeding 4000 meters."[25] Still another group of scientific observations was conducted in the Mount Whitney region from 1922 to 1925, under Dr. Robert A. Millikan, for the study of cosmic rays, but the stations were not at the summit.[26]

Finally, what is the altitude of Mount Whitney? Over the years many attempts have been made to arrive at a precise figure. Clarence King, in 1864, estimated that it was somewhat over 15,000 feet, later using the figure 14,887. Rabe, with his barometer, in 1873, computed it at 14,898. The Wheeler Survey, in 1875, gave it at 14,471, and Langley, in 1881, produced the figure of 14,522, which was long in vogue. Then, in 1903, McAdie computed it at 14,515. The latter figure was used until 1905, when the U. S. Geological Survey substituted 14,502, or 14,501. That remained the official figure until careful leveling in 1928 produced 14,495.811. Even then there was no finality. An adjustment became necessary to bring Owens Valley levels into agreement with the U. S. Coast and Geodetic Survey's general transcontinental network. On this basis the official figure became14,495 feet, approximately 4418 meters. The question naturally arises, do we stop there? The successive corrections have been due chiefly to improvements in instrumental accuracy. The instruments have now reached such precision that there is slight chance of error. But is it really necessary to ask the question? For all practical purposes we have known for a long time that the altitude of Mount Whitney is approximately 14,500 feet or 4420 meters.[27]