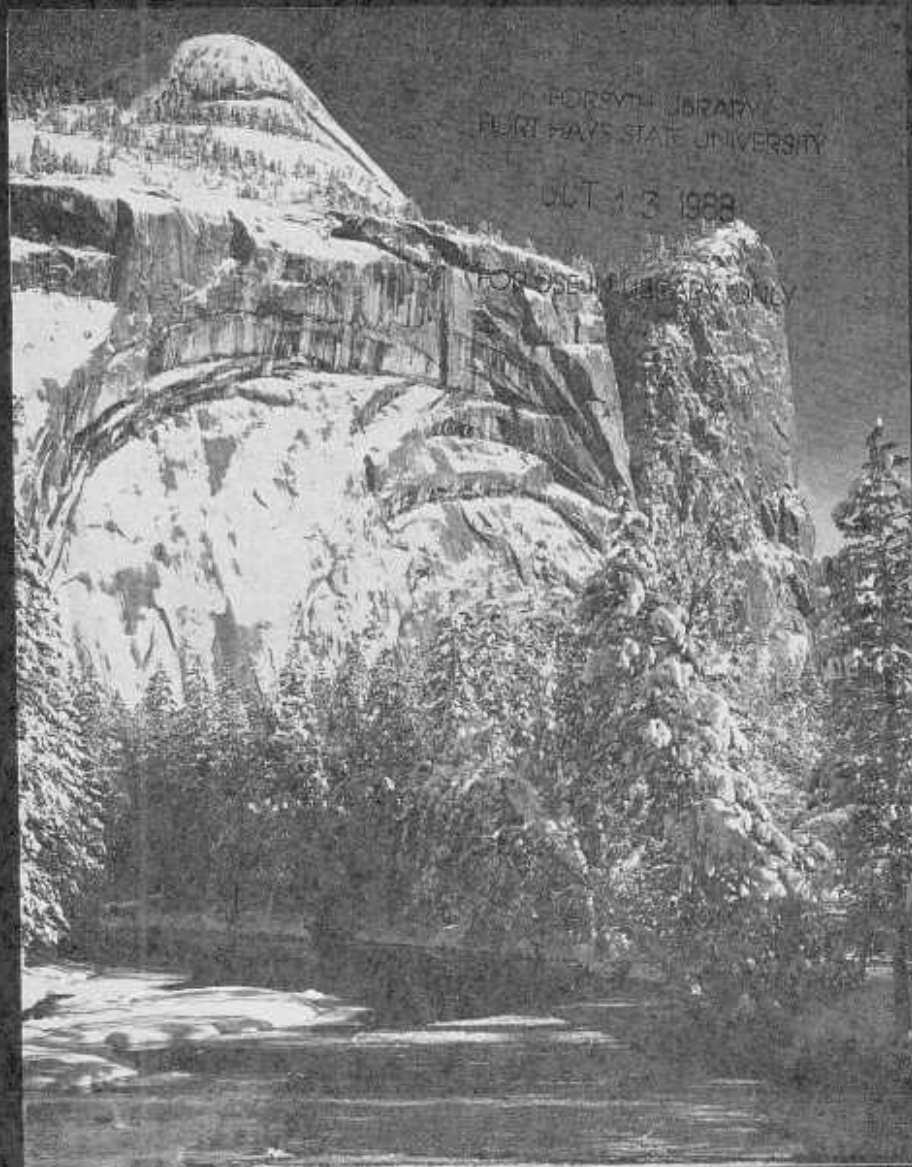


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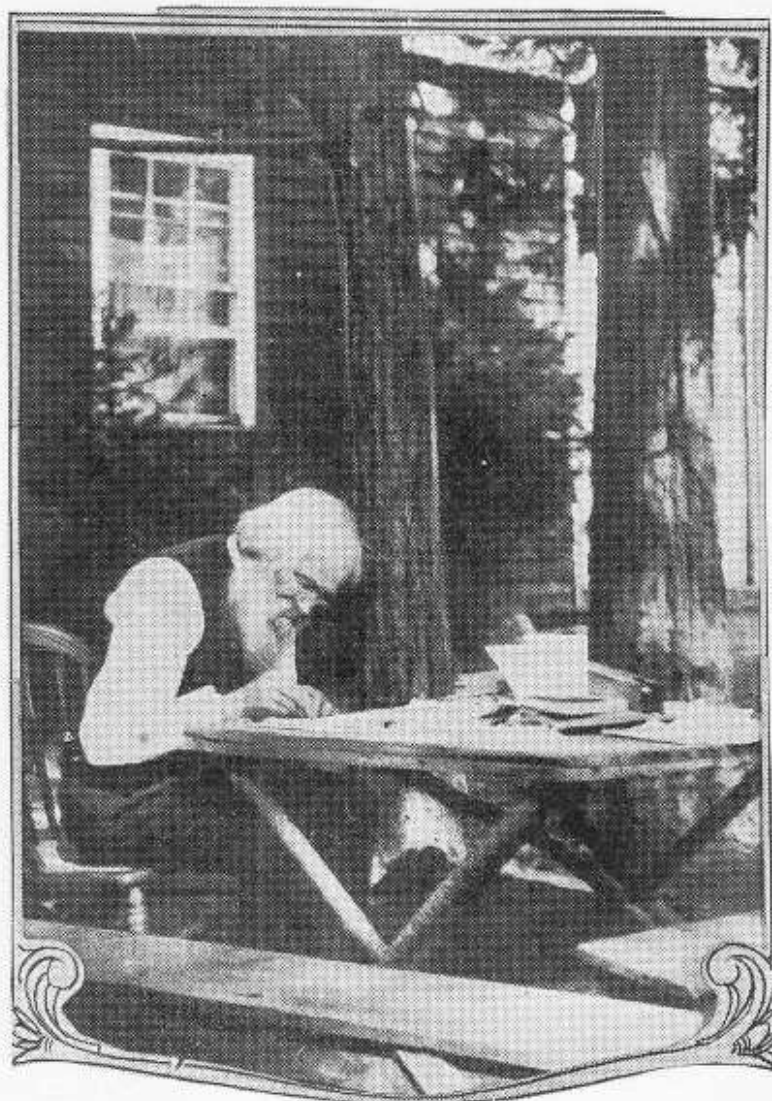
Yosemite Nature Notes



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Made Wiseman photo.

Fortieth Anniversary, death of Galen Clark—"Guardian of Yosemite."

Cover Photo: North Dome, winter, Yosemite Valley. By Ansel Adams from "Yosemite and the Sierra Nevada" text by John Muir, 64 photographs by Ansel Adams. Reproduction by kind permission of Houghton Mifflin Company.

Yosemite Nature Notes

THE MONTHLY PUBLICATION OF
THE YOSEMITE NATURALIST DIVISION AND
THE YOSEMITE NATURAL HISTORY ASSOCIATION, INC.

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"REMINISCENCES OF GALEN CLARK YOSEMITE VALLEY CAL. 1880"

[**Editorial Note** by C. Gregory Crampion, University of Utah. This brief autobiographical account will add an item to the published Galen Clark bibliography. These reminiscences were dictated to an employee of Hubert Howe Bancroft who, in addition to the writing of his monumental *Works*, performed an important service by collecting the memories of many California pioneers. The incomparable Bancroft Library at the University of California, Berkeley, California has generously given permission to publish these reminiscences by Clark in the **Yosemite Nature Notes**. The manuscript, which is somewhat sketchy and obviously in answer to diverse questions put by Bancroft's employee, is reproduced without editorial change. Assistance in the preparation of this material was provided by the University of Utah Research Fund.

Most of this account is concerned with Clark's Ranch at Wawona, the discovery of the Big Tree groves, and his experience as guardian of Yosemite Valley. The last paragraph refers to the Mexican land grant known as "Las Mariposas." With indefinite boundaries this grant was purchased by John C. Fremont in 1847 and was originally located to include most of the watershed of Mariposa Creek where Fremont and his employees were the first discoverers of gold there in 1849. In final government surveys, required in such cases, Las Mariposas was relocated to include not only the upper portion of Mariposa Creek but the rich mines in Bear Valley discovered by John F. "Quartz" Johnson and developed by the Merced Mining Company. In a series of lawsuits, the famous land grant, as relocated, was finally confirmed to Fremont. This produced harsh feelings toward Fremont and the successive owners of Las Mariposas which have persevered with diminishing intensity for almost a century.]

"I was born in Mass. in 1814, tho' I was raised in Dublin, Cheshire Co., N. H. I left New York in the fall of 1853 to come to California, my object being to hunt for gold. I came by steamer. In the summer of 1854 came to Mariposa Co. in pursuit of gold. Mariposa was then quite a large town and full of miners, probably ten people then where there is one now in the country. People invested their money in ware-houses and iron-proof buildings, but when the miners left business was at an end; the mining ceased in 1857 when

the Frazer River excitement carried all the miners away; and the country has never been thickly settled since.

"As I never met with any success in mining for myself, I worked with a mining Co. as assistant, as packer and camp-keeper of the Mariposa Ditch Company. That was in 1855. In the spring of 1856 I had a hemorrhage of the lungs, as in consequence went up into the mountains south fork of the Merced, and settled at what is known as Clark's. As I went there for my health I spent

the first season in leisure. I had camped there in 1855 and liked the locality.

"My nearest neighbor was 16 miles distant. I was entirely alone, with the exception of persons who were passing and stopping temporarily. I was waiting to have the Ditch Co. settle with me which they never did.

"The trails were opened through Mariposa and Coulterville in 1856, and then travel commenced in the Yo Semite; all were camping parties. The Mariposa trail was opened by Mann Brothers; the expense of opening the trail was between \$700 and \$1,000.

"In the month of June 1857, Milton Mann and myself discovered the Mariposa Grove of Big Trees. I was not working on the trail with the exception of the bridge at my place. We were looking for the three trees which had been described to us by a hunter named Ogg and so discovered the grove before we knew there were any other trees of that kind, and afterward found the three trees isolated about one mile S.E. from the Main Grove. We then made it known so as to attract travel through that route. The Mann Bros. kept it up for about three years, when it was made a free trail. Their toll was four dollars for about 36 miles toll trail; saddle horses \$3 a day.

"The agricultural interests have increased in Mariposa Co. as the mining interests have died out. All the agricultural portions of Mariposa Co. have segregated into other counties. Mariposa Co. originally embraced Merced, Fresno and Tulare, they being taken from the county in inverse order. Its chief interest now is the Valley and Big Trees.

"The valley and Clarke's [sic] Ranch were summer resorts for In-

dians; they caused very little trouble; no more murder and thieving among them than among the whites. In the Fall of 1863 there was a white man, a Capt. Gould killed between Clarke's [sic] Ranch and Yo Semite; waylaid and killed. It was not known certainly for a year that such a murder had been committed. Two of the principal Indians concerned in it were killed afterward. Capt. Gould had been a sea-captain and was returning from mining from Mono Co. In 1875 there was another murder in Merced on the Coulterville road about 8 miles from here; a man named Boston, toll-collector for the Coulterville road was murdered by Indians. No proof could be brought up however against any one.

"In the year 1858, in the spring, I discovered the Fresno Grove, about 8 miles in a S.E. line from the Mariposa Grove. The Indians directed me here—Fresno and Mariposa Grove have each about 600 of the big-tree species.

"The regular travel commenced in 1857 and I began to give entertainment at my place and as travel increased I increased my accommodations. Many distinguished visitors came to the valley and expressed the wish that the Yo Semite should be set apart as a public park. Among the most active was Mrs. Fremont and I. W. Raymond of S. F. He was the prime mover in securing its being set apart for that purpose. In the winter of '63 a bill was introduced to that effect and it became a law in 1864. A board of Commissioners was appointed to take charge of it and I was appointed as one of the first. Gov. Low made the appointment.

"There has never been any accident, where any person has been

hurt on any of the trails in the valley.

"In 1865 I was appointed Guardian of the Valley, by the Board of Commissioners and have acted in that capacity ever since. I took in a partner in the hotel business, in 1871, Edwin Moore, as I wanted a partner who had a wife. We carried on the business until 1875 when we sold out to Washburne, Chapman and Coffman owners of the Mariposa and Yo Semite Stage Line. In 1875 I came into the Valley to make my permanent residence here.

"The Fremont Mexican Grant was called a "floating-claim," subject to location within certain extensive boundaries; they were given when the country was unexplored, they could be located within extensive boundaries without being definitely defined. He first located his grant on the Mariposa Creek near the mouth and while waiting for a patent from

Congress he sent a private survey to Bear Valley and Princeton, embracing the town of Mariposa also, a grant of nine square leagues, which was discovered to be a rich mining district; and all unbeknown to the miners secured his patent to the grant. Serious trouble threatened, but some compromise was effected, so it passed over to the Fremont Company. The man known as "Quartz" Johnson was in possession at that time of the survey. Quartz Johnson has been long known in San Francisco. It was called then the Merced Mining Co. The Fremont Company got hold of all the mining claims. While in Mariposa County, Fremont would never transact business without his wife being present, who had a much clearer head than he. Fremont became entangled in debt, and eventually the Mariposa estate was sold for debt."

June 1880
Yo Semite Valley.

MIDGET BEETLES AGAINST MIGHTY MONARCHS

By Emil F. Ernst, Park Forester

Insect control operations against destructive bark beetles have been an established feature of Yosemite National Park management since 1932. Since then large numbers of insect infested trees have been treated in the unrelenting campaign to keep losses from bark beetles within reasonable limits. Bark beetles fill their niche in Nature's scheme of things and complete elimination of bark beetles cannot be expected nor is such an objective desired.

With one exception, the bark beetles being combatted in the park have life cycles of a year or less. The western pine beetle which attacks the ponderosa pine may have,

under very favorable conditions, as many as three broods in a year. The mountain pine beetle may have as many as two broods in a year, but in this instance conditions must be extremely favorable for brood development. The mountain pine beetle attacks sugar pine, lodgepole pine, western white pine and often ponderosa pine. Each species of bark beetles leaves, in its characteristic galleries, its signature of responsibility.

With the hundreds upon hundreds of thousands of trees in the Yosemite forests, one may wonder how the insect control crewman is able to find the insect infested tree. As with Man, a tree indicates by symptoms



Photo by Anderson.

Monarch of Yosemite Valley.

its status of ill health. The symptoms may take one or more several forms visual to the trained observer. The most conspicuous symptom displayed by the insect infested tree, which is visible for miles, is the change in color of the needles. The insect control man has become accustomed to detecting almost imperceptible changes in the healthy appearing foliage of a forest. Lime green or lemon green foliaged trees may be under new attacks of bark beetles and such trees are closely inspected. Trees with sorrel colored

foliage are usually insect infested with the brood still in the bark. Successful attacks of bark beetles are always indicated by a change in foliage color to sorrel and later to a gray black. The tree is dead or dying at the time the sorrel color has become established.

However, all sorrel colored trees are not treated. Close inspection may reveal that the bulk of the brood has already flown, or the attack, although the tree is dead or dying, may not be dense enough to warrant the use of insect control funds in treating when trees with bigger and more healthy broods may exist elsewhere in the control area. The treater determines the extent of the brood by sampling the bark of the infested tree.

Quite often in the immediate vicinity of abandoned insect killed trees there may be other trees under attacks that will eventually kill the trees, but these trees have not shown the tell-tale off color of the attacked trees. The first is by observance of the fact that pitch tubes of the attacking parent beetles can be readily discerned from a distance either by their number or by their newness and brightness. When the bark beetles attack and start their mining of the cambium layer of the tree, the tree exudes quantities of pitch in an endeavor to drown out the attackers. The beetles in their effort to overcome this pitch build up little mounds of both pitch and sawdust on the bark of the tree which can be seen at times for some distance.

A second way in which trees are known to be under attack is the presence on the bark of suspected trees of the insect predator of the bark beetles. There are three principal predators, the first and most reliable being the Tiger Clerid, the second is another closely related

Clerid and the third is the Blue-green Trogostid or Gilmore, nicknamed from "Gilmore" Blue-green gasoline. The presence of several of these beetles on a tree is a sure sign that bark beetles are attacking.

The third, and also an unquestionable means of detecting infested trees, is the presence of woodpeckers or signs of their work. When travelling or working on infested trees, the rat-tat-tat of woodpeckers is closely investigated. Many a woodpecker, by his talking, has done himself out of a source of delectable morsels. As soon as the location of the woodpecker is determined the tree is closely inspected. If no other signs of bark beetle work is apparent immediately, the amount, depth and character of the woodpecker's work on the bark of the tree will reveal the condition of the



Photo by Anderson.

Scouting Insect Infestation.

bark beetle brood and also its species.

The moral of this story could be "When you have a good thing, keep quiet about it."

WHAT IS HAPPENING TO THE GLACIERS OF YOSEMITE?

By Robert N. McIntyre, Assistant Park Naturalist

On October 1, with good weather and a bright moon which made possible a longer working day, the survey party left Tuolumne Meadows Ranger Station for the beginning of two weeks of study of the ice bodies lying within and near the boundary of Yosemite National Park. The field party of Harry C. Parker, Associate Park Naturalist; Robert N. McIntyre, Assistant Park Naturalist in charge of technical work; Ralph H. Anderson, Information and Editorial Specialist; Douglas Powell, graduate student of the University of California; and Dr. Verlin Baysinger of the Lewis Memorial Hospital Staff who later joined the group, were packed in to the Upper Lyell Base Camp on the Tuolumne River by

District Ranger Carl Danner. From this location the lobes of Lyell Glacier and Maclure Glacier were surveyed before the party retired to the Tuolumne Meadows station for short trips to other ice bodies.

Due to the long, dry summers of 1947, 1948 and 1949 and due to the light snowfall on the summit of the Sierra Nevada during the winters of 1946, 1947 and 1948 the survey of October 1949 promised to reveal many things about the Yosemite glaciers not known previously.

Prior to the beginning of the October field work the presence of four new ice bodies or glacierets had been established by nonprofessional investigators. During July of 1949 Mr. Harry James with a party of

"Trailfinders" had visited and photographed a glacieret in the Gibbs Canyon Area east of Mt. Dana.¹ In early August of 1949, students of the Yosemite Field School had observed a third lobe of Lyell Glacier to the southeast of Mt. Lyell.² In late August of 1949, Boy Scout Troop 50 of Yosemite Valley had visited an ice body or glacieret above a lake about one mile west of Helen Lake on the northern slope of Kuna Crest.³ In early September of 1949 Mr. A. E. Harrison, faculty member of the University of Washington, observed a glacieret then being uncovered on the northern slope of North Peak near Mt. Conness.³

All of these observations were checked against the original studies carried out in the Sierra Nevada by I. C. Russell, geologist of the U. S. Geological Survey 1883-84, and found with the exception of the North Peak Glacieret which had not been plotted on his map, the "Existing Glaciers of the Sierra Nevada."⁴

Dr. Carl W. Sharsmith, a scientific observer and ranger naturalist stationed at Tuolumne Meadows, in a statement to the writer prior to the October investigation, observed that the apparent melting of the Dana Glacier and others in the Yosemite Area during the summer of 1949 was greater than in any one year since his summer observations began in 1931.

The objectives to be accomplished by the survey party in October were based on the fact that since the war year of 1943 only three glaciers had been observed and photographed by the park naturalists. This work was done by the survey party in the fall

of 1947. The objectives were set up to conform with an overall plan for the parks issued by the Director of the National Park Service, Washington, D. C., as well as to meet the needs for a more complete survey of the local area.

Priority of work was set up so that the greatest amount of work could be accomplished in the two weeks period in the field. Although not all of the work could be completed by the October survey party, it is hoped that a systematic record of all ice bodies in the area can be completed with a minimum of time and labor during the coming years.

The first week of October was spent by the party on or near the three lobes of Lyell Glacier and at Maclure Glacier. Here old stations were relocated and made permanent by the setting of brass bench markers in the solid rock. New stations were located and photographic points used as long ago as 1883 were re-established. At these points new photographs for modern comparisons were taken.

Measurements across the east and west lobes of the Lyell Glacier were made with steel tape and Abney level to determine the difference in thickness of the ice bodies as compared to their thickness in past years. From the data obtained it was possible to draw transverse profiles of the ice surface on cross-section paper to a predetermined scale. From this work we are now able to answer graphically a question put to us by Dr. Francois E. Matthes some years before his death as to whether the surfaces of our glaciers were concave, convex, or concave-

1. *Yosemite Nature Notes*, Vol. XXIX, February 1950, Page 15.
2. Report of Glacier Studies in Yosemite National Park, 1949, Page 13.
3. Report of Glacier Studies in Yosemite National Park, 1949, Page 18.
4. U. S. Geological Survey, Fifth Annual Report 1883-84, opposite page 310.

convex (which last they were found to be) as they move from the cirques in which they generate.

Photographs compared over a period of years showed us that the lobes of Lyell Glacier have melted and receded very rapidly since the days of 1883. The 1949 measurements, taken at stations *K* and *L* on the west lobe of Lyell, when compared with those of 1933 indicate that a tremendous volume of ice has disappeared since that year. Notes taken in 1933 by the survey party revealed that the eastern ice edge of the west lobe of Lyell Glacier was then 20 feet below the newly established point *K*. Our measurements of October 1949 showed the ice edge to be 52.8 feet below and 79.5 feet of horizontal distance to the west of Point. *K*.

The average variation in thickness of the ice mass along Base Lines *G-H* and *K-L* since 1933 indicates that since that date the ice mass has diminished some 1½ feet per year in thickness. Stations that in the early 1930's were very close to the ice bodies are now high and dry. The unprecedented melting of snow during the 1949 season exposed parts of the glaciers which have probably not been seen by man before this year.

For comparative purposes and for an estimate of the areas of exposed ice on Lyell and other glaciers in or near the park, U. S. Army Air Corps aerial photographs taken in September of 1944 were used in conjunction with the October survey. The southeast lobe of Lyell Glacier, re-discovered by the students of the Yosemite Field School, has turned out to be a sizeable body of ice when viewed from these aerial photographs.

Known base lines (*G-H* and *K-L*) were plotted on the enlarged aerial photograph of Lyell and Maclure

Glaciers for determination of a scale of measurement and with the use of an engineer's planimeter the following areas of exposed ice were computed. The west lobe of Lyell measured 104 acres, the east lobe 94 acres and the southeast lobe 28 acres, making a total of approximately 226 acres of exposed ice as compared to the 321 acres exposed on the Palisades Glacier which is reported to be the largest in the Sierra Nevada.

During the second week of October with periods of unsettled weather and new snow, the survey party visited and photographed Koip, Conness and Dana Glaciers on trips from the Tuolumne Meadows Ranger Station. On the way to Conness Glacier via the mining road around Saddlebag Lake, a distant view of the North Peak Glacieret was obtained showing a sizeable ice body. Due to the depth of new snow on Conness the old measuring stations could not be located, but permanent photographic stations were established and pictures were taken.

The trip to Koip Glacier was a rugged affair through new snow which concealed the loose rocks of the moraines. Here photographs were taken and new stations were established for future use. From the huge moraine at the foot of the glacier the Army bomber, which burned and scattered death on the ice during the war years, could be seen perched above the bergschrund as though waiting to be buried in the huge crevasse. A number of years from now, as this metal skeleton emerges from the ice, startled observers may well have a museum piece from the technical age of World War II.

The trip to Dana Glacier was most revealing.⁵ The glacier proper was a mass of blue, glare ice cut with crevasses and fissures while the

surface consisted of huge ice hummocks. Two ice caves were observed on the western flank where the ice has arched over rock outcroppings. One of these caves was visited. There the underside of the glacier could be seen, cold, dry and very blue.

The Dana ice mass has decreased so much in volume in the past few years that some observers have come to believe that it was receding from its terminal moraine. This fact has not yet been established, but during the coming years it will be watched closely. The only reliable measuring station found intact in the area was station 5A on bedrock below the western flank of the ice. In 1935 the slope distance from this station to the ice was 84 feet, while the 1949 measurement was 224 feet, showing a recession of 140 feet in 14 years or ten feet per year. This figure is merely an indication of the change taking place on one flank and cannot be considered the average amount^o of melting for the whole ice body.

A complete record of the 1949 investigation in report form with a check list of the Yosemite glaciers and glacierets is now available to the public in the Yosemite Museum Research Library. Twenty ice bodies in or near Yosemite have been recorded over a period of years since 1883 and are now listed for study. It is hoped that within five years a complete photographic record of these ice bodies will be on hand taken from permanent photo points that can be easily found and used for comparisons in future years.

If the summers of the Yosemite region continue to be long and dry as in the past few years, and if the winters continue to be bitterly cold with less snowfall in the higher elevations, we can expect more snowbanks in the high peaks to melt and reveal a number of ice bodies or glacierets not known at this time. Along with this we can also expect a decided slumping of the glacial moraines and a separation of moraines from the true fronts of the larger glaciers which are now well covered with rock debris.

5. See photographs inside back cover.





Engraving of Dana Glacier from photo by I. C. Russell, 1883,
Fifth Annual Report, U. S. Geological Survey 1883-84.



Photo of Dana Glacier by Ralph H. Anderson, 1949,
showing the loss of ice in a period of 66 years.



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Dan Anderson