

Mount Shasta Collection

Snow-Storm on Mount Shasta

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SNOW-STORM ON MOUNT SHASTA

MOUNT SHASTA, situated near the northern extremity of the Sierra Nevada, rises in solitary grandeur from a lightly sculptured lava plain, and maintains a far more impressive and commanding individuality than any other mountain within the limits of California.



Go where you will within a radius of from fifty to a hundred miles, there stands the colossal cone of Shasta, clad in perpetual snow, the one grand landmark that never sets. While Mount Whitney, situated near the southern extremity of the Sierra, notwithstanding it lifts its granite summit some four or five hundred feet higher than Shasta, is yet almost entirely snowless during the summer months, and is so feebly individualized, the traveller often searches for it in vain amid the thickets of rival peaks by which it is surrounded.

The elevation of the highest point of Mount Shasta, as determined by the state Geological Survey, is in round numbers 14,440 feet above

mean tide. That of Mount Whitney, computed from fewer and perhaps less reliable observations, is about 14,900 feet. But inasmuch as the average elevation of the common plain out of which Shasta rises is only about 4000 feet above sea, while the actual base of Mount Whitney lies at an elevation of 11,000 feet, the individual stature of the former is nearly two and a half times that of the latter; and while the circumference of Mount Shasta around the base is nearly seventy miles, that of Whitney is less than five.

All that has been observed of the internal frame-work of Mount Shasta goes to show that its entire bulk originated in successive eruptions of ashes and lava, which, pouring over

the lips of craters, layer upon layer, grew upward and outward like the trunk of an exogenous tree.

The Shasta lavas are chiefly trachytic and basaltic, varying greatly in color, density, and age. A few tufaceous and brecciated beds are visible in eroded sections near the summit, but pumice and obsidian, usually so abundant in other volcanic regions throughout the state, are here remarkably rare.

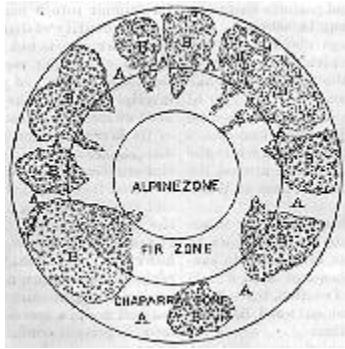
During the glacial period Mount Shasta was a centre of dispersal for the glaciers of the circumjacent region. The entire mountain was then loaded with ice, which, ever descending, grooved its sides and broke up its summit into a mass of ruins. But the whole quantity of denudation the mountain has undergone is not easily determined, its porous crumbling rocks being ill adapted for the reception and preservation of glacial inscriptions. All the finer striations have been effaced, while the extreme irregularity of its lavas, as regards erodibility, and the disturbances caused by inter and post glacial eruptions, have obscured or wholly obliterated those heavier characters of the glacial record found so clearly inscribed upon the granitic pages of the high Sierra between latitude 36 degrees 30' and 39 degrees. This much, however, is plain, that when at length the ice period began to draw near a close, the Shasta ice cap was gradually melted off around the bottom, and, in receding and breaking up into its present condition, deposited the irregular heaps and rings of moraine soil upon which the Shasta forests are growing.



The Whitney glacier is the most important of the few fragmentary ice patches still remaining active. It takes its rise in extensive snow and ne've' fields on the summit, flows northward, and descends in a series of crevassed curves and cascades almost to the timberline--a distance of nearly three miles. Though not the very largest, this is perhaps the longest active glacier in the State. Glacial erosion of the Shasta lavas gives rise to light porous soils, largely made up of sandy detritus that yields very readily to the transporting power of running water. Several centuries ago immense quantities of this lighter material were washed down from the higher slopes by an extraordinary flood, giving rise to the simultaneous deposition of conspicuous delta-like beds, extending around the entire circumference of the base, their smooth gray surfaces offering a striking contrast to the rough scoriaceous lava flows that divide them. But notwithstanding the incalculable wear and tear and ruinous degradation that Shasta has undergone, the regularity and symmetry of its outlines remain unrivaled. The mountain begins to leave the plain in slopes scarcely perceptible, measuring from two to three degrees. These are continued by exquisitely drawn gradations, mile after mile, all the way to the truncated crater-like summit, where they attain a steepness of from twenty to thirty-five degrees. This grand simplicity is partially interrupted on the north by a

subordinate cone that grows out of the side of the main cone about 3000 feet below the summit.

This side cone has been in a state of eruption subsequent to the breaking up of the main ice cap, as shown by the comparatively unwasted circular crater in which it terminates, and by numerous streams of fresh unglaciated lava that radiate from it as a centre.



The main summit is about one and a half miles in diameter from southwest to northeast, and consists mainly of two extensive snow and ne've' fields, bounded by crumbling peaks and ridges, among which we look in vain for any sure plan of an ancient crater. The extreme summit is situated upon the southern extremity of a narrow ridge that bounds the main summit on the east. As viewed from the north, it is an irregular blunt peaklet about ten feet high, fast disappearing before the stormy atmospheric erosion to which it is

subjected. Hot sulphurous gases and vapors escape with a loud hissing noise from fissures in the lava near the base of the eastern ridge, opposite the highest peaklet. Several of the vents cast up a spray of clear bead-like drops of hot water, that rise repeatedly into the air and fall back until worn into vapor.

The steam and spray phenomena seem to be produced simply by melting snow coming in the way of the escaping gases, while the gases themselves are evidently derived from the heated interior, and may be regarded as the last feeble expression of that vast volcanic energy that builded the mountain.

Since the close of the ice period, nature has divided Mount Shasta into three distinct botanic zones. The first, which may be called the chaparral zone, has an average width of about four miles, and comprises the greater portion of the sandy flood beds noted above. They are densely overgrown with chaparral from three to six feet high, composed chiefly of manzanita, cherry, chincapin, and several species of ceanothus, forming when in full bloom one of the most glorious spectacles conceivable.

The continuity of these immense chaparral fields is grandly interrupted by wide swaths of coniferous trees, chiefly sugar and yellow pines, with Douglass spruce, silver-fir, and incense cedar, many specimens of which are over 200 feet high and six or seven feet in diameter at the base.

Golden-rods, asters, gillas, lilies, and lupines, with a multitude of less conspicuous herbaceous plants, occur in warm openings of the woods, with forms and colors in delightful accord, and enlivened with butterflies and bees.



The next higher is the fir zone, made up almost exclusively of the three silver-firs, viz., *Picea grandis*, *P. amabilis*, and *P. amabilis*, var. *nobilis*.

This zone is from two to three miles wide, has an average elevation above the sea on its lower edge of 6000 feet, on its upper of 8000, and is far the simplest and best defined of the three.

The Alpine zone is made up of dwarf pines, heath-worts, stiff wiry carices, lichens, and red snow.

The pines attain an elevation of 9500 feet, but at this height their summits rise only three or four feet into the frosty air, and are close-pressed and level, as if crushed by winter snow, and shorn off by the icy winds, yet flowering nevertheless, and sometimes producing cones and ripe nuts. *Bryanthus*, a beautiful flowering heath-wort, flourishes a few hundred feet higher, accompanied by *kalmia* and *spiraea*. Dwarf daisies and carices attain an elevation on favorable slopes of 11,000 feet, while beyond this a scanty growth of lichens and red snow composes the entire vegetation.

The following is a list of all the coniferous trees I have been able to find growing upon Mount Shasta, named downward in order of occurrence :

<i>Pinus flexilis</i>	Dwarf pine
<i>Pinus monticola</i>	Mountain pine
<i>Pinus contorta</i>	Tamarack pine
<i>Picea amabilis</i>	Silver-fir
<i>Picea amabilis</i> , var. <i>nobilis</i>	Silver-fir
<i>Picea grandis</i>	Silver-fir
<i>Pinus ponderosa</i>	Yellow pine
<i>Pinus ponderosa</i> , var. <i>jeffreyi</i>	Jeffrey pine
<i>Pinus lambertiana</i>	Sugar-pine
<i>Abies douglassii</i>	Douglas spruce
<i>Libocedrus decurrens</i>	Incense cedar
<i>Pinus tuberculata</i>	
<i>Juniperus occidentalis</i>	Cedar

The bulk of the forest is made up of the three silver-firs, Douglas spruce, the yellow and sugar pines, and incense cedar, and of these *Picea amabilis* is at once the most abundant and the most beautiful.

The ascent of Mount Shasta is usually made in July or August, from Strawberry Valley, on the Oregon and California stageroad. Storms are then less common and less violent, and the deep snows are melted from the lower slopes, and the beautiful Alpine vegetation is then coming into bloom. The ordinary plan is to ride from Strawberry Valley to the upper edge of the timber line, a distance of ten miles, the first day, and camp; then, rising early next morning, push to the summit, and return to the valley on the evening of the second day.



In journeying up the valley of the Upper Sacramento one obtains frequent views of Mount Shasta, through the pine-trees, from the tops of hills and ridges; but at Strawberry Valley there is a grand out-opening of the forests, and Shasta stands revealed at just the distance to be seen most comprehensively and impressively.

Looking at outlines, there, in the immediate foreground, is a smooth green meadow with its crooked stream; then a zone of dark forest, its countless spires of fir and pine rising above one another higher and higher in luxuriant ranks; and above all the great white cone sweeping far into the cloudless blue--meadow, forest, and mountain inseparably blended and framed in by the arching sky. My last ascent of Shasta was made on the 30th of April, 1875, accompanied by Jerome Fay, a hardy and competent mountaineer, for the purpose of making barometrical observations on the summit, while Captain A.F. Rodgers, of the United States Coast Survey, made simultaneous observations with a compared barometer at the base.

In the cooler portions of the woods winter snow was still lying five feet deep, and we had a tedious time breaking through it with the pack animals. It soon became apparent that we would not be able to reach the summer camping ground; and after floundering and breaking trail in the drifts until near sundown, we were glad to camp for the night as best we could upon a rough lava ridge that protruded through the snow. From here we carried blankets and one day's provision on our backs over the snow to the extreme edge of the timber line, and make a second camp in the lee of a block of red trachyte. This, of course, was done with a view to lessening as much as possible the labor of completing the ascent, to be undertaken next day. Here, on our trachyte bed, we obtained two hours of shallow sleep, mingled with fine glimpses of the keen starry night. We rose at 2 A.M., warmed a tin-cupful of coffee, broiled a slice of frozen venison on the coals, and started for the summit at 3:20 A.M.

The crisp icy sky was without a cloud, and the stars lighted us on our way. Deep silence brooded the mountain, broken only by the night wind and an occasional rock falling from crumbling buttresses to the snow slopes below. The wild beauty of the morning stirred our pulses in glad exhilaration, and we strode rapidly onward, seldom stopping to take a

breath--over the broad red apron of lava that descends from the west side of the smaller of the two cone summits, across the gorge that divides them, up the majestic snow curves sweeping to the top of the ancient crater, around the broad icy fountains of the Whitney glacier, past the hissing fumaroles, and at 7:30 A.M. we attained the utmost summit.

Up to this time there was nothing discernible either in the wind tones or in the sky that betokened the near approach of a storm; but on gaining the summit we observed several hundred square miles of white cumuli spread out on the lava plain toward Lassen's Peak, squirming dreamily in the sunshine far beneath, and exciting no alarm.



The slight weariness of the ascent was soon rested away. The sky was of the thinnest, purest azure; spiritual life filled every pore of rock and cloud; and we reveled in the marvelous abundance and beauty of the landscapes by which we were encircled.

At 9 A.M. the dry thermometer stood at 34 degrees in shade, and rose steadily until 1 P.M., when it stood at 50 degrees, although no doubt strongly influenced by sun heat radiated from the adjacent cliffs. A vigorous bumble-bee zigzagged around our heads, filling the air with a summery hay-field drone, as if wholly unconscious of the fact that the nearest honey flower was a mile beneath him.

Clouds the mean while were growing down in Shasta Valley--massive swelling cumuli, colored gray and purple and close pearly white. These, constantly extending around southward on both sides of

Mount Shasta, at length united with the older field lying toward Lassen's Peak, thus circling the mountain in one continuous cloud zone. Rhett and Klamath lakes were eclipsed in clouds scarcely less bright than their own silvery disks. The black lava beds made famous by the Modoc war; many a snow-laden peak far north in Oregon; the Scott and Trinity mountains; the blue Coast Range; Shasta Valley, dotted with volcanoes; the dark coniferous forests filling the valleys of the Upper Sacramento--were all in turn obscured, leaving our own lofty cone solitary in the sunshine, and contained between two

skies--a sky of spotless blue above, a sky of clouds beneath. The creative sun shone gloriously upon the white expanse, and rare cloud-lands, hill and dale, mountain and valley, rose responsive to his rays, and steadily developed to higher beauty and individuality.

One colossal master-cone, corresponding to Mount Shasta, rose close alongside with a visible motion, its firm polished bosses seemingly so near and substantial we fancied we might leap down upon them from where we stood, and reach the ground by scrambling down their sides.

Storm clouds on the mountains--how truly beautiful they are!-- floating fountains bearing water for every well; the angels of streams and lakes; brooding in the deep pure azure, or sweeping along the ground, over ridge and dome, over meadow, over forest, over garden and grove; lingering with cooling shadows, refreshing every flower, and soothing rugged rock brows with a gentleness of touch and gesture no human hand can equal!

The weather of spring and summer throughout the middle region of the Sierra is usually well flecked with rain-storms and light dustings of snow, most of which are far too obviously joyous and life-giving to be regarded as storms. In the case of the smallest and most perfectly individualized specimens, a richly modeled cumulus cloud is seen rising above the dark forests, about 11 o'clock A.M., directly upward into the calm sky, to a height of about four or five thousand feet above the ground, or ten or twelve thousand feet above the sea; its pearly bosses finely relieved by gray and purple shadows, and exhibiting outlines as keen as those of a glacier-polished dome. In less than an hour it attains full development, and stands poised in the blazing sunshine like some colossal fungus. Presently a vigorous thunder-bolt crashes through the crisp sunny air, ringing like steel on steel, its startling detonation breaking into a spray of echoes among the rocky canons below. Then down comes the cataract of rain to the wild gardens and groves. The big crystal drops tingle the pine needles, splash and spatter on granite pavements, and pour adown the sides of ridges and domes in a net-work of gray bubbling rills. In a few minutes the firm storm cloud withers to a mesh of dim filaments and disappears, leaving the sky more sunful than before. Every bird and plant is invigorated, a steam of fragrance rises from the ground, and the storm is finished--one cloud, one lightning flash, one dash of rain. This is the California rain-storm reduced to its lowest terms. Snow-storms of the same tone and dimensions abound in the highest summits, but in spring they not unfrequently attain larger proportions, and assume a violence of expression scarcely surpassed by those bred in the depths of winter. Such was the storm now gathering close around us. It began to declare itself shortly after noon, and I entertained the idea of abandoning my purpose of making a 3 P.M. observation, as agreed on by Captain Rodgers and myself, and at once make a push down to our safe camp in the timber. Jerome peered at short intervals over the jagged ridge on which we stood, making anxious gestures in the rough wind, and becoming more and more emphatic in his remarks upon the weather, declaring that if we did not make a speedy escape, we should be compelled to pass the night on the summit. Anxiety, however, to complete my observations fixed me to the ridge. No inexperienced person was depending upon me, and I told Jerome that we two mountaineers could break down through any storm likely

to fall. About half past 1 o'clock P.M. thin fibrous cloud films began to blow directly over the summit of the cone from north to south, drawn out in long fairy webs, like carded wool, forming and dissolving as if by magic. The wind twisted them into ringlets and whirled them in a succession of graceful convolutions, like the outside sprays of Yosemite falls; then sailing out in the pure azure over the precipitous brink of the cone, they were drifted together in light gray rolls, like foam wreaths on a river.

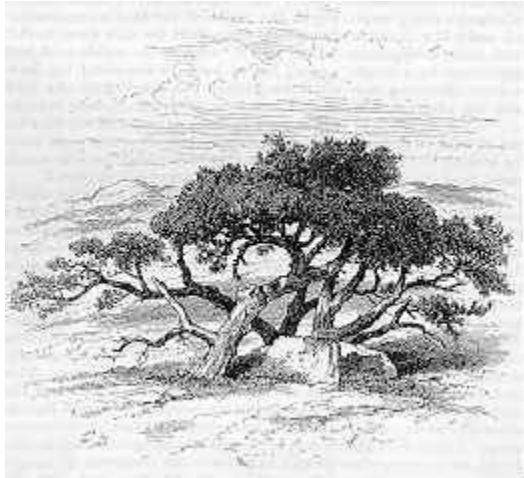
These higher cloud fabrics were evidently produced by the chilling of the air from its own expansion, caused by an upward deflection against the mountain slopes. They steadily increased on the north rim of the cone, forming a thick, opaque, ill-defined embankment, from whose icy meshes snow flowers began to fall, alternating with hail. The sky speedily darkened, and just after I had completed my observations and boxed the instruments, the storm broke in full vigor. The cliffs were covered with a remarkable network of hail rills that poured and rolled adown the gray and red lava slopes like cascades of rock-beaten water.

These hail-stones seemed to belong to an entirely distinct species from any I had before observed. They resembled small mushrooms both in texture and general form, their six straight sides widening upward from a narrow base to a wide dome-like crown.

A few minutes after 3 P.M. we began to force our way down the eastern ridge, past the group of hissing fumaroles. The storm at once became inconceivably violent, with scarce a preliminary scowl. The thermometer fell twenty-two degrees, and soon sank below zero. Hail gave place to snow, and darkness came on like night. The wind rising to the highest pitch of violence, boomed and surged like breakers on a rocky coast. The lightnings flashed amid the desolate crags in terrible accord, their tremendous muffled detonations unrelieved by a single echo, and seeming to come thudding passionately forth from out the very heart of the storm.

Could we have begun at once to descend the snow-filled grooves leading to the timber, we might have made good our escape, however dark or violent the storm. As it was, we had first to make our way along a dangerous snow ridge nearly a mile and a half in length, flanked by steep ice slopes on one side, and by shattered precipices on the other. Fortunately I had taken the precaution ere the storm began, while apprehensive of this very darkness, to make the most dangerous points clear to my mind, and to mark their relations with reference to the direction of the wind. When, therefore, the storm broke, I felt confident we could urge our way through the darkness and uproar with no other guidance. After passing the "Hot Springs," I halted in the shelter of a lava block to let Jerome, who had fallen a little behind, come up. Here he opened a council, in which, amid circumstances sufficiently exciting, but without evincing any bewilderment, he maintained, in opposition to my views, that it was impossible to proceed: the ridge was too dangerous, the snow was blinding, and the frost too intense to be borne; and finally, that, even supposing it possible for us to grope our way through the darkness, the wind was sufficiently violent to hurl us bodily over the cliffs, and that our only hope was in wearing away the afternoon and night among the fumaroles, where we should at least avoid freezing.

I urged that the wind was chiefly at our backs, and that, once arrived at the western edge of the cone, we had but to slide or wallow down steep inclines whose topographical leadings would insure our finding camp in any case, and that if need be we could creep along the more dangerous portions of the ridge, and clear the ice and precipices on hands and feet. He positively refused, however, to entertain any thought of venturing into the storm in that direction, while I, aware of the real dangers that would beset our efforts, and conscious of being the cause of his being thus imperiled, decided not to leave him.



Our discussions ended, Jerome made a dash from behind the lava block, and began forcing his way back some twenty or thirty yards to the Hot Springs against the wind flood, wavering and struggling as if caught in a torrent of water; and after watching in vain for any flaw in the storm that might be urged as a new argument for attempting the descent, I was compelled to follow. "Here," said Jerome, as we stood shivering in the midst of the hissing, sputtering fumaroles, "we shall be safe from frost." "Yes," said I, "we can lie in this mud and gravel, hot at least on one side; but how shall we protect our

lungs from the acid gases? and how, after our clothing is saturated with melting snow, shall we be able to reach camp without freezing, even after the storm is over? We shall have to await the sunshine; and when will it come?

The patch of volcanic climate to which we committed ourselves has an area of about one-fourth of an acre, but it was only about an eighth of an inch in thickness, because the scalding gas jets were shorn off close to the ground by the oversweeping flood of frost wind.

The marvelous lavishness of the snow can be conceived only by mountaineers. The crystal flowers seemed to touch one another and fairly to thicken the blast. This was the booming time, the summer of the storm, and never before have I seen mountain cloud flowering so profusely. When the bloom of the Shasta chaparral is falling, the ground is covered for hundreds of square miles to the depth of half an inch; but the bloom of our Shasta cloud grew and matured and fell to a depth of two feet in less than a single day. Some crystals caught on my sleeve, and, examined under a lens, presented all their rays exquisitely perfect; but most were more or less bruised by striking against one another, or by falling and rolling over and over on the ground and rising again. The storm blast, laden with this fine-ground Alpine snow dust, can not long be braved with impunity, and the strongest mountaineer is glad to turn and flee.

I was in my shirt sleeves, and in less than half an hour was wet to the skin; Jerome fortunately had on a close-fitting coat, and his life was more deeply imbedded in flesh than mine. Yet we both trembled and shivered in a weak, nervous way, as much, I

suppose, from exhaustion brought on by want of food and sleep as from sifting of the icy wind through our wet clothing.

The snow fell with unabated lavishness until an hour or two after the coming on of what appeared to be the natural darkness of night. The whole quantity would probably measure about two feet. Up to the time the storm first fell upon the mountain, its development was gentle in the extreme--the deliberate growth of cumulus clouds beneath, the weaving of translucent tissue above, then the roar of the wind, the crash of thunder, and the darkening flight of snow flowers. Its decay was not less sudden--the clouds broke and vanished, not a snow-flake was left in the sky, and the stars shone out with pure and tranquil radiance.

As our experiences were somewhat exceptional during the long strange night that followed, it may perhaps be interesting to record them.

In the early stages of the night, while our sufferings were less severe, I tried to induce Jerome, who is a hunter, to break out in bear stories or Indian adventures to lessen our consciousness of the cold. But although meeting the storm bravely, he was not in talking condition. Occasionally he would indulge in calculations as to how long the fire of life would burn, whether the storm would last all the night and the next day, and if so, whether Sisson would be able to come to the rescue ere we succumbed to the cold. Then, with a view to cheering myself as well as him, I pictured the morning breaking all cloudless and sunful, assuring him that no storm ever lasted continuously from day to day at this season of the year; that out of all this frost and weariness we would yet escape to our friends and homes, and then all that would be left of the trying night would be a clump of unrelated memories he would tell to his children.

We lay flat on our backs, so as to present as little surface as possible to the wind. The mealy snow gathered on our breasts, and I did not rise again to my feet for seventeen hours. We were glad at first to see the snow drifting into the hollows of our clothing, hoping it would serve to deaden the force of the ice wind; but, though soft at first, it soon froze into a stiff, crusty heap, rather augmenting our novel misery. "Last year," said Jerome, "I guided a minister up here. I wish he were here now to try some prayers. What do you really think, Muir--would they help a fellow in a time like this?" Yet, after all, he seemed to recognize the unflinching fair play of Nature, and her essential kindliness, though making no jot of allowance for ignorance or mistakes. The snow fell on us not a whit more harshly than warm rain on the grass.

The night wind rushed in wild uproar across the shattered cliffs, piercing us through and through, and causing violent convulsive shivering, while those portions of our bodies in contact with the hot lava were being broiled.

When the heat became unendurable, we scraped snow and bits of trachyte beneath us, or shifted from place to place by shoving an inch or two at a time with heels and elbows; for to stand erect in blank exposure to the wind seemed like certain death.

The acrid incrustations sublimed from the escaping gases frequently gave way, opening new vents, over which we were scalded; and fearing that if at any time the wind should fall, carbonic acid, which usually forms so considerable a portion of the gaseous exhalations of volcanoes, might collect in sufficient quantities to cause sleep and death, I warned Jerome against forgetting himself for a single moment, even should his sufferings admit of such a thing. Accordingly, when, during the long dreary watches of the night, we roused suddenly from a state of half consciousness, we called each other excitedly by name, each fearing the other was benumbed or dead.

The ordinary sensations of cold give but faint conceptions of that which comes on after hard exercise, with want of food and sleep, combined with wetness in a high frost wind. Life is then seen to be a mere fire, that now smoulders, now brightens, showing how easily it may be quenched.

The weary hours wore away like a mass of unnumbered and half-forgotten years, in which all our other years and experiences were strangely interblended. Yet the pain we suffered was not of that bitter kind that precludes thought and takes away all capacity for enjoyment. A sort of stupefaction came on at times, in which we fancied we saw dry resinous pine logs suitable for camp fires, just as when, after going days without food, we fancy we see bread.

The extreme beauty of the sky at times beguiled our sense of suffering. Ursa Major, with its thousand home associations, circled in glorious brightness overhead; the mysterious star clouds of the Milky Way arched over with marvelous distinctness, and every planet glowed with long lance rays like lilies within reach. Then imagination, coming suddenly into play, would present the beauties of the warm zone beneath us, mingled with pictures of other lands. With unnatural vividness we saw fine secluded valleys, haunts of the deer and bear, and rich fir woods with their wealth of fern-like branches and orange lichens adorning their tall brown trunks. Then the bitter moaning wind and the drifting snow would break the blissful vision, and our dreary pains would cover us like clouds.

"Muir," Jerome would inquire, with pitiful faintness, "are you suffering much?" "Yes," I would reply, straining to keep my voice brave, "the pains of a Scandinavian hell, at once frozen and burned. But never mind, Jerome; the night will wear away at last, and to-morrow we go a-Maying, and what camp fires we will make, and what sun baths we will take!"

The frost became more and more intense, and we were covered with frozen snow and icicles, as if we had lain castaway beneath all the storms of winter. In about thirteen hours day began to dawn, but it was long ere the highest points of the cone were touched by the sun. No clouds were visible from where we lay, yet the morning was dull and blue and bitterly frosty, and never did the sun move so slowly to strip the shadows from the peaks. We watched the pale heatless light stealing toward us down the sparkling snow, but hour after hour passed by without a trace of that warm flushing sunrise splendor we were so eager to welcome. The extinction of a life seemed a simple thing after being so gradually drained of vitality, and as the time to make an effort to reach camp drew near, we became

concerned to know what quantity of strength remained, and whether it would be sufficient to carry us through the miles of cold wind and snow that lay between us and the timber.

Healthy mountaineers always discover in themselves a reserve of power after great exhaustion. It is a kind of second life only available in emergencies like this, and having proved its existence, I had no great dread that either Jerome or myself would fail, though my left arm was already benumbed and hung powerless.

In our soaked and steamed condition we dared not attempt the descent until the temperature was somewhat mitigated. At length, about eight o'clock on this rare 1st of May, we rose to our feet, some seventeen hours after lying down, and began to struggle homeward. Our frozen trousers could scarce be made to bend; we therefore waded the snow with difficulty. The horizontal summit ridge was fortunately wind-swept and nearly bare, so that we were not compelled to lift our feet very high; and on reaching the long home slopes laden with fresh snow, we made rapid progress sliding and shuffling, our feebleness rather accelerating than diminishing our speed. After making a descent of 3000 feet, we felt the warm sun on our backs, and at once began to revive; and at 10 o'clock A.M. we reached camp and were safe. Half an hour afterward we heard Sisson shouting down the fir woods on his way to camp with horses to take us to the hotel.

We had been so long without food, we cared but little about eating, but eagerly drank the hot coffee prepared by Sisson. Thawing our frozen toes was a painful task, but no permanent harm was done.

We learned from Sisson that when our terrific storm was in progress, only a calm, mild-looking cloud cap was observed on the mountain, that excited no solicitude for our safety. We estimated the snow-fall on the summit of two feet or more; at camp, some 5000 feet lower, we found only three inches, while down on the sloping base only a light shower had fallen, sufficient to freshen the grass.

We were soon mounted, and on our way down into the thick sunshine--to "God's country," as Sisson calls the chaparral zone. In two hours' ride the last snow bank was left behind. Violets appeared along the edges of the trail, and the chaparral was coming into bloom, with young lilies and larkspurs in rich profusion. How beautiful seemed the golden sunbeams streaming through the woods, and warming the brown furrowed boles of the cedar and pine! The birds observed us as we passed, and we felt like speaking to every flower.

At four in the afternoon we reached Strawberry Valley, and went to bed. Next morning we seemed to have risen from the dead. My bedroom was flooded with living sunshine, and from the window I saw the great white Shasta cone wearing its clouds and forests, and holding them loftily in the sky. How fresh and sunful and new-born our beautiful world appeared! Sisson's children came in with wild flowers and covered my bed, and the sufferings of our long freezing storm period on the mountain-top seemed all a dream.