SEVEN NATURAL WONDERS OF CALIFORNIA.

The Yosemite, The Petrified Forest, Mount Shasta, Death Valley, The Geysers, Kings Canyon, The Sequoia Gigantea.

Scientists and travelers who have been asked to name the seven natural wonders of California have given THE CALL the following list: Yosemite, Death Valley, the Petrified Forest, Mount Shasta, the Sequoia Gigantea, Kings Canyon and the Geysers.

What more varied category would a lover of natural wonders want? What greater contrast than is here provided?

What State or Territory of the Union can show such wonders? Can any of them show even a Yosemite, letting alone all the rest? True, the Yellowstone Park is great and the Niagara is mighty, but in California are grouped all those seven marvels of nature enumerated above and many others.

THE ONLY YOSEMITE.

There are certain of the seven wonders of California which are yet comparatively unknown and require detailed description.

But the Yosemite Valley can hardly be regarded as one of these. It is the song of Eastern travelers returning from the West; it is the mecca of the world's visitors to the Pacific Coast; it is or should be the glory of California herself.

Yet, as no man is said to be a prophet in his own country, so the exquisite beauties and sublime grandeur of this unique valley seem to be taken very much on credit by the average Californian.

It is the old story; that which we have not we desire; that which we have we undervalue.

None the less, here in our midst is located, not only one of the wonders of the State and of the world, but also one of our richest sources of natural wealth.

Wealth?

It would seem richer in every way than an exhaustible gold mine. For does not the great valley, in its most material form of service, form a main attraction of Eastern and foreign travel, with its attendant gold? Who can estimate the value, from a commercial standpoint, of such a majestic "standing ad?"

Wealth, too, of national inspiration for artist, author, poet, musician, philosopher and ordinary groping, struggling men and women.

John Muir, the scientist, the most recent authority on this "noble mark for the traveler," seems to have drunken deeply of the spirit of the place. He says:

"No temple made with hands can compare with Yosemite. Every rock in its walls seem to glow with life. Some lean back in majestic repose; others, absolutely sheer or nearly so for thousands of feet, advance beyond their companions in thoughtful attitudes, giving welcome to storms and calms alike, seemingly conscious, yet heedless of everything going on about them. Awful in stern, immovable majesty, how softly these mountain rocks are

Cyclops—Standing Room for Eighteen Horses in the Hollow of This Tree.

adorned and how fine and reasyuring the company they keep—their feet set in groves and gay emerald meadows, their brows in the thin blue sky, a thousand flowers leaning confidingly against their adamanite bases, bathed in floods of booming water, floods of light, while snow, clouds, winds, avalanches shine and sing and wreathe about them as the years go by! Birds, bees, butterflies and myriads of nameless wings stir the air into music and give glad animation. Down through the midst flows the crystal Merced—River of Mercy—peacefully gliding, reflecting lilies and trees and the onlooking rocks, things frail and fleeting and types of endurance meeting here and blending in countless forms, as if into this one mountain mansion nature had gathered her choicest treasures, whether great or small, to draw her lovers into close and confiding communion with her."

Mark also this lover of nature in his description of his finding of Yosemite:

"One shining morning at the head of the Pacheco Pass [he had started afoot from Oakland] a landscape was displayed that after all my wanderings still appears as the most divinely beautiful and sublime I have ever beheld.

"There at my feet lay the great central plain of California, level as a lake, thirty or forty miles wide, four hundred long, one rich furred bed of golden composite. And along the eastern shore of this lake of gold rose the mighty Sierra, miles in height, in massive, tranquil grandeur, so gloriously colored and so radiant that it seemed not clothed with light, but wholly composed of it, like the wall of some celestial city. Along the top and extending a good way down was a rich pearl-gray belt of snow; then a belt of blue and dark purple, marking the extension of the forests, and stretching along the base of the range a broad belt of rose-purple where lay the miners' gold and the open foothill gardens—all the colors smoothly blending, making a wall of light clear as crystal and inefflably fine, yet firm as adamant.

"Then it seemed to me the Sierra wall of Yosemite should be called, not the Nevada or Snowy Range, but the Range of Light.

"And still, after years in the midst of it, rejoicing and wondering, seeing the glorious floods of light that fill it—the sunbursts of morning along the mountain peaks, the broad noonday radiance on the crystal rocks, the

Towering El Capitan.

flush of the alpenglow and the thousand dashing waterfalls with their marvelous abundance of irised spray—it still seems to me a range of light."

The observant and artistic traveler tells how his "range of light," in its length of 500 miles, width of 70 miles and height of from 7000 to 15,000 feet, "is furrowed with canyons to a depth of from 2000 to 5000 feet, in which once flowed majestic glaciers and in which now flow and sing the bright Sierra rivers."

Then he particularizes: "The most famous and accessible of these canyon valleys, and also the one that presents their most striking and sublime features on the grandest scale, is the Yosemite, situated on the upper waters of the Merced at an elevation of 4000 feet above the level of the sea.

"It is about seven miles long, half a mile to a mile wide and nearly a mile deep and is carved in the solid granite flank of the range.

"The walls of the valley are made up of rocks, mountains in size, hardly separatad from each other by side canyons and gorges; and these are so sheer in front and so compactly and harmoniously built together on a level floor that the place, comprehensively seen, looks like some immense hall or temple lighted from above."

So much for mere preliminary description, which, like a far-off glimpse or apt prelude, whets the appetite for closer and more appreciative encounter.

"From the heights," says Mr. Muir, "we at length gain our first general view of the valley—a view that breaks suddenly upon us in all its glory far and wide and deep; a new revelation

The Mother of the Forest.

in landscape affairs that goes far to make the weakest and meanest spectator rich and insignificant evermore.

"Along the curves and zigzags of the road, all the way down to the bottom, the valley is in sight with ever-changing view, and the eye ranges far up over the green gray floor, between the mighty walls, bits of the river gleaming here and there, while as we draw nearer we begin to hear the song of the waters.

"Gazing at random, perhaps the first object to gain concentrated attention will be the Bridal Veil, a beautiful waterfall on our right. Its brow, where it first leaps free from the rocks, is about 900 feet above us, and as it sways and swings in the wind with gauzy, sunsifted spray half falling, half floating, it seems infinitely gentle and fine, but the hymn it sings tells the solemn power that is hidden beneath the soft clothing it wears.

"On the other side of the valley, opposite the Veil, there is another magnificent fall called the Ribbon Fall or Virgin's Tears. The 'tears' fall from a height of about 3000 feet and are most extravagantly copious when the snow is melting, coming hissing and roaring with force enough to drive a mile of mills, suggesting the 'weeping skies' of cyclones and hurricanes.

"Just beyond, the glorious 'El Capitan Rock is seen through the pine groves pressing forward beyond the general line of the wall in most imposing grandeur. It is 3300 feet high, a plain, severely simple, glacier-sculptured face of granite, the end of one of the most compact and enduring of the mountain ridges, standing there in supreme height and breadth, a type of permanence.

"Across the valley from here above the Bridal Veil are the picturesque Cathedral Rocks, nearly 2700 feet high, making a noble display of fine yet massive sculpture. They are closely related to El Capitan, having been hewn from the same mountain ridge by the Yosemite glacier when the valley was in process of formation.

"Beyond El Capitan, the next in succession of the most striking features of the north wall are the Three Brothers, an immense mountain mass with three gables fronting the valley one above the other, the topmost nearly 4000 feet high. They were named for three brothers captured here during the Indian war, sons of Tenaya, the old Yosemite chief.

"On the south wall, opposide the Brothers, towers the Sentinel Rock to a height of more than 3000 feet, a telling monument of the icy past.

"Sauntering up the valley through meadow and grove, in the company of these majestic rocks, which seem to follow us as we advance gazing, admiring, looking for new wonders ahead where all about is wonderful, the thunder of the Yosemite Fall is heard, and when we arrive in front of the Sentinel it is revealed in all its glory from base to summit, half a mile in height and seeming to gush directly from the sky.

"But even this fall, perhaps the most wonderful in the world, cannot at first control our attention, for now the wide upper portion of the valley is displayed to view, with the North Dome, Royal Arches and Washington Column on our left, Glacier Point Rock, with its magnificent sculpture on our right, and in the middle Tissiack or Half Dome, the most beautiful and most sublime of all the mountain rocks about the valley. It rises in serene majesty from the fertile level into the sky to a height of 4750 feet.

"Here the valley divides into two branches, the Tenaya, Nevada and Illiliouette canyons and valleys, extending back into the fountains of the high Sierra, with scenery every way worthy the relation they bear to Yosemite."

Willingly and with profit, did space permit, could we linger with this masterly cicerone in his artistic vagrancy, but his guidance would lure us too far from our theme—the Yosemite Valley proper.

Then there is the Illiliouette Fall, "one of the most beautiful of the Yosemite choir," the Mirror Lake, the Dome Cascades, the Tenaya Fall, Mount Watkins, Cloud's Rest, Sierra Cathedral, Mount Dana, Mono Lake, Mount Lyell, the Big Tubhumne Canyon, the Vernal and Nevada falls, the Little Yosemite, besides the four other little Yosemites, all of which Mr. Muir touches upon in the description under consideration.

The famous Yosemite Valley lies in Mariposa County and as nearly as possible in the center of California. It is 150 miles nearly due east of San Francisco in an air line, the route as traveled, however, being 110 miles longer, 200 miles of this distance being covered by rail and the balance by stage.

The valley was originally called by the Indians "Ahwahnee," also "Yohamite," but the name as now written, Yosemite, will doubtless stand, its signification being a "full-grown grizzly bear." It is pronounced as of four syllables, the accent being on the second.

The principal features of the Yosemite and those by which it is distinguished from all other known valleys are: First, the near approach to verticality of its walls; second, their great height, not only absolutely, but as compared with the valley itself; and finally, the very small amount of talus or debris at the base of these gigantic cliffs. Either the domes or the waterfalls of the Yosemite or any single one of them even would be sufficient in any European country to attract travelers from far and wide.

The valley is at present a State possession, its control being vested in a commission. Considerable comment has been excited of late regarding the past action or neglect of this commission, and the possible recession of this unique valley to the paternal Government has become a burning question of the day.

The tide of travel to the Yosemite is usually almost cut off in the winter season, but commences again with the dwindling of the waterfalls, on the 1st of April of each year.

THE PETRIFIED FOREST.

Long ago the surface of California was studded with active volcanoes.

Shasta itself was probably one of the later active craters and the wonderful Geysers are striking effects of those hardly subdued subtranean forces which were the architects of the Yosemite and kindred scenery throughout California.

It has been held that the latest volcano in activity was Mount St. Helena, which is situated to the north of the Napa Valley.

Not far from the mountain in the days of its eruptive activity shot up the trees of a tall forest, and one day the mighty shower of ashes from the belching mouth of St. Helen's volcano buried the great trunks completely out of sight.

They were buried in an upright position and almost immediately the fatal dust-mass surrounding them was cooled off as it became saturated with water from the bursting forth of springs—an event which the volcanic convulsions of those days made extremely common.

The springs in that locality are all heavily charged with mineral properties, and these straightway proceeded to make of the imprisoned forest a permanent stone curiosity for future ages.

But future ages might never have discovered the unique curiosity had it not been for some subsequent shock of earthquake, by means of which nature laid the giants of the forest over on their sides and brought them up to within a few feet of the surface of the ground.

Such is the theory of some authorities as to the origin of the Sonoma County petrified forest.

It is located on a mountain 1500 feet above the level of the sea, about five miles west of south of Calistoga and near the dividing ridge between Napa and Santa Rosa valleys.

The road from Calistoga to the forest is picturesquely beautiful. The hills are covered with groves of pines, oaks, madronas, manzanitas and other growth, and as the tourist passes along he cannot but be struck by the ever-changing grace and grandeur of the landscape.

The forest is on the north side of a deep ravine or canyon and covers an area of 200 or 300 acres—roughly measured, it is four miles long and one mile wide—over which are scattered the fragments of hundreds of petrified trees. Only a portion have as yet been unearthed.

The trees are from 100 to 150 feet in length and from 2 to 7 feet in diameter, and are broken up into logs of various lengths.

Judging by what have been crudely uncovered, the trees show evidence of having been encrusted with earth and rock of volcanic formation, which has only been partly washed away by water.

The logs bear an exact resemblance to wood, the bark, grain, knots, hollows and excrescences being shown in unmistakable realism.

They are in every state of crystallization, and some beautiful polished specimens have been obtained.

Under the microscope the wood appears to be similar to the redwood, but the comparative shortness of the trunk in relation to its diameter is one factor inclining palæontologists to a belief that the forest was composed of some extinct arboreal species.

In one place is a large tree growing between and upon the fragments of a log of rock which strikes the beholder as an elaborate curiosity of nature, and prepares him to understand the existence of these logs for countless ages.

Another famous petrified specimen, "The Pride of the Petrified Forest," a cut of which is presented herewith, also shows a sapling growing out of its hoary length—a veritable picture of "Life in Death."

The trees are nearly all lying with the tops away from St. Helena Mountain, by which it has been sought by some theorists to argue that they were overwhelmed by lava from that direction.

Among the well-known men of science who have visited this extraordinary natural curiosity is Professor T. C. Marsh.

He says of the position of the forest: "It is about 2000 feet in height and is mainly composed of metamorphic rocks of cretaceous age, which are, in places, as we ascertained, overlaid inconformably by later tertiary strata, consisting of light-colored coarse sandstone and beds of stratified volcanic ashes.

"This ridge had long been covered with a dense growth of chaparral, but just before our visit a destructive fire had swept over a portion of it, rendering it comparatively easy to examine a large tract of country which apparently had never been explored.

"A careful examination of the locality where the first prostrate trunks had been discovered soon made it evident that those now on the surface had all been weathered out of the volcanic tufa and sandstones which form the summit of this portion of the mountain ridge.

"Several large silicified trees were indeed, subsequently found in the vicinity projecting from the side of a steep bluff, which had partially escaped denudation."

Other theories exclude the action of petrifying mineral water as unnecessary, and cite the discovery of the Pompeiian petrifactions as instances of what lava and scoriæ can do on occasion.

This remarkable forest, whatever its origin, was first brought into prominence about 1864, when Samuel Brannan was "running" the Calistoga Springs.

Soon afterward it was formally located by a Swede, who somehow claimed the name of Charles Evans. "Petrified Charlie," as he was called, was quite a character. He fenced in the property and lived there alone, except for the society of a dog and a goat.

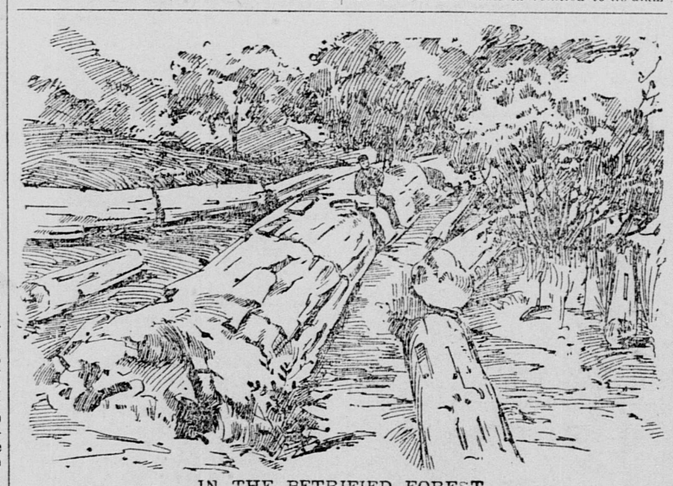
He admitted visitors at so much a head, or stageful, and used to regale them with an almost perfectly unintelligible scientific description of the trees, always winding up by an introduction to his dog and goat.

From every scientist who came along he gathered up fresh scientific terms, which he used haphazard, but with profound belief in their lucidity. The trees were for him always "desiccated specimens."

He died six or seven years ago, but not before reaping quite a sum of money by his astute presumption.

The forest is still in private hands, and naturally continues to attract visitors more and more.

As an eloquent relic of gigantic forces now at rest, as a messenger as it were of prehistoric times, telling of strange growths and marvelous preservative conditions, this Petrified Forest must ever be classed among the most fascinating wonders of the State.



IN THE PETRIFIED FOREST.

THE GEYSERS.

In contrast with the wonders which reign among the clouds are the celebrated Geysers, which appear to trench on the very borders of the infernal regions themselves.

There are very few geysers in the world, and everywhere they are regarded as peculiar interesting centers of attraction.

As long as the geysers of Sonoma County exist scientists, world tourists and the curious and health-seeking public will continue to visit them, and they will remain a source of pride and wealth to the State.

The word geyser is from the Icelandic "geysa," meaning "to burst forth violently," and sufficiently describes the effect of the well-known intermittent hot and cold springs.

Geysers are found in Iceland, until recently in New Zealand, where an earthquake wrought much destruction among the famous terraces in the island of New Ulster, and in the United States west of the Rockies.

Of the latter the geysers of Sonoma County come second to those at Yellowstone Park, which are considered the most wonderful in the world. The mud volcanoes and boiling springs of the Colorado Desert are third in the list.

Our particular branch of Pluto's nether kingdom is located in the northeastern section of Sonoma County, about one hundred miles north of San Francisco, sixteen from Cloverdale and twenty-six from Calistoga. The springs are on a branch of Pluton River, which empties into the Russian River, and the buildings about them are 1692 feet above the sea level.

All around the romantic hills are clothed with verdure of indigenous flora, gigantic oaks and towering pines. Indeed, as the visitor ascends toward these world-renowned springs the neighborhood appears to be about the last place in the world where one would expect to find a factory of devastating force in full blast.

But as the springs are neared the pulsing throb—puff—puff—as of an engine is heard, and a brief space brings in view the mysterious gorge of this partially extinct volcanic region.

The "puff—puff" previously heard comes from the Steamboat Geyser, the most noted of all, making as much noise as a high-pressure, seven-boiler boat, and sending up steam and sulphurous vapors several hundred feet into the air.

These vapors, which rise all along the canyon, can be best seen in the early morning. Later, the sun's rays prevent them from being discernible as far above the ground.

Almost immediately the explorer falls upon mineral springs, containing strangely flavored waters of various temperatures, strongly recommended for external or internal application for diverse ailments.

Here you may find the healed enthusiast drenching himself with iron, alum, acids and salts in different proportions, with, it is said, radical results; and, indeed, it would seem that before such a variety of combinations a disorder must be obstinate in the extreme not to yield with a good grace.

"One of the most interesting springs in Geyser Canyon," says Dr. Winslow Anderson, "is the 'witches' caldron,' a large, boiling, circular spring of over seven feet in diameter and of unfathomable depth. The water has a temperature of 212 degrees Fahrenheit, and is unceasingly boiling and bubbling.

"The spring is a black, sulphurous fluid as black as the inky cloak of Hamlet.

"As the awe-struck tourists 'round about the caldron go' they see, in their imagination, the solemn ghost of Banquo rising and materializing in the fumes of the 'charmed pot,' and with a small stretch of the fancy you once more see the three witches and hear their husky voices chanting the solemn incantation:

Round about the caldron go;
In the poisoned entrails throw
Toad that under cold stone
Days and nights has thirty-one.
Swelter'd venom, sleeping got,
Boil thou first i' the charmed pot!
Double, double, toil and trouble;
Fire burn and caldron bubble.

Fillet of a fenny snake
In the caldron boil and bake;
Eye of newt and toe of frog;
Wool of bat and tongue of dog;
Adder's fork and blind worm's sting;
Lizard's leg and owlet's wing,
For a charm of powerful trouble
Like a hell-broth boil and bubble.
Double, double, toil and trouble;
Fire burn and caldron bubble.

"On analysis this remarkable fumarole, 7 feet in width, having its source probably hundreds of feet below the surface, yields water rich in sodium, calcium and magnesium sulphates.

"Crossing the Devil's Canyon under the same guidance, the ground gets warm under your feet and the fumes make you think of the hereafter as a deep ravine is entered, from which boiling hot steam and gases escape in every direction until the brain reels in awe.

"Passing along through the ravine, with the boiling water running at your feet, you enter 'Proserpine's Grotto,' in which is placed the 'Devil's Armchair.' This latter is a huge boulder, which nature has hollowed out in the shape and form of a large parlor chair. In this you sit with great solemnity to make sure of the benevolent friendship of his Satanic Majesty.

"The next point of interest is the Devil's Kitchen, with warning signs of 'danger' stuck up in every direction.

"The country rock is serpentine, sandstone and limestone, with igneous deposits and incrustations of sulphur, soda, cinnabar, etc., and as the fumaroles, cracks and fissures emit their boiling waters and vapors, saturated with free sulphurous, sulphuric, hydrochloric acids and carbonic anhydride, all having strong disintegrating action on the formation, everything is, in consequence, soft and yielding. The banks and rocks are like clay and sand, easily dislodged on the slightest touch—hence the signs of danger.

"This solvent, molten section is fairly in the midst of a boiling, seething, trembling and smoking Plutonian realm.

"The ground under your feet is becoming hotter and hotter and the sulphurous fumes and vaporous steam are nearly suffocating, rising to nearly 500 feet.

"It is also observed that all these wonderful subterranean forces exhibit more activity at or near the full moon.

"As you proceed along the knob, over 'straight and narrow path,' it is literally and practically important that you follow your guide, lest one misstep hurl you into that undiscovered country from whose bourne no traveler returns.'

"Innumerable springs and vents and subterranean outlets spurt and spout in every direction. 'Pluto's Punchbowl' is a large spring of hot lemonade, containing sulphuric acids and sulphates.

"The 'Geyser Smokestack' is a large opening from which issue volumes of sulphur-laden fumes, which rise into the air for several hundred feet, where they condense and fall to the ground as water, sulphur, etc.

"Next comes the 'Devil's Canopy' and the 'Geyser Safety-valve,' an intermittent scalding spring, which ejects streams of boiling water to the height of fifteen feet; then the 'Devil's Pulpit,' a little elevation where his Satanic Majesty (presumably) goes to direct the workings of his laboratory.

"Passing the 'Devil's Gristmill,' with its subterranean noises resembling those of a mill engine, the ravine forks, being commanded by a plateau called 'Lovers' Leap.'

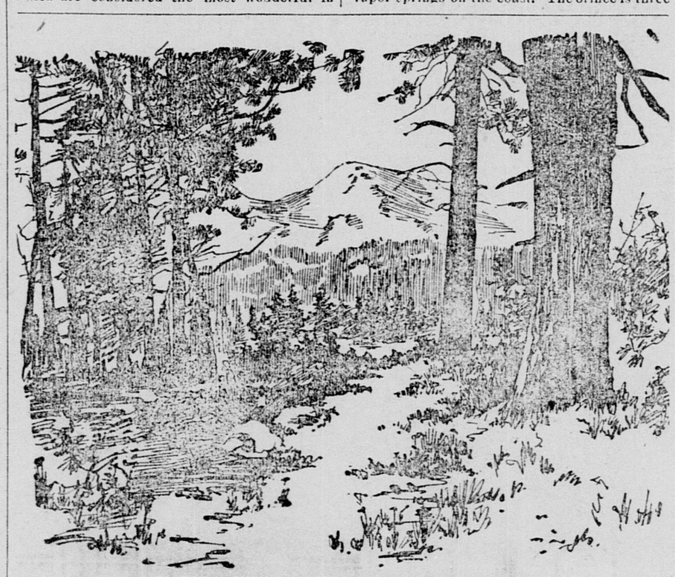
"Hence the view of the boiling, seething, roaring, steaming, groaning and bubbling springs below is one of unrivaled grandeur. One hundred and sixty feet below you and all along the 'Devil's Canyon' is one mass of smoking fury, shrill whistles, regularly intermitting puffs and groans, issuing from the interior of the earth.

"This sight alone is worth the whole trip.

"To the east is 'Lovers' Retreat,' a pleasant oasis in the wilderness of sulphurous clouds. Here also is 'Temperance Spring,' of cold, clear water, and near it is a fallen oak, having a knothole in one of its huge branches known as the 'Postoffice.'"

And so we are led on past the Fire Mountain, with its hundreds of small orifices, "Alkali Lake," the "Lava Beds," the "Indian Sweat Bath" to the "Devil's Teakettle."

This teakettle spring is one of the strongest vapor springs on the coast. The orifice is three



SHASTA, FROM STRAWBERRY VALLEY.

feet in diameter, opening out of the side of the mountain with a huge bowlder overhanging it. It is about half a mile from the active springs in Geyser Canyon. The vapor is emitted with such force that a large bunch of brush placed in front of it is instantly swept away for many feet.

Hence, by the "Hot Acid Springs," "Lemonade" and "Devil's Oven" Pluton River is regained, where baths have been erected.

The Geyser Springs, hot and cold, flow daily about 100,000 gallons. The area covered is about 400 acres. Most of the activity, however, is confined to the "Devil's" or Geyser Canyon and comprises about sixty acres.

SHASTA, THE SUPERB.

As the eye sweeps the State its survey is early arrested by the elevation of Mount Shasta Isolated, symmetrical, with snow-capped peaks towering solemnly among the clouds, Shasta presents an aspect of unique and irresistible interest.

Moreover, into the composition of this magical fascination undoubtedly a finer element enters than mere spectacular wonder.

California has almost a uniform width of 200 miles, and its chief physical feature is a great central valley, parallel to the trend of the coast, inclosed by the Sierras on the east and the Coast Range on the west. The southern limit of this valley is near Tejon Pass and the northern near Shasta City, close to which Mount Shasta forms the crest of the Sierras.

The great mountain thus stand as our northern guard, a mighty sentinel commanding the approach to the thousand marvels within the State borders.

Along the line of railroad between San Francisco and Oregon it can be seen for 200 miles, and its grandeur is one of the first objects to impress visitors entering the State by the northern route.

Another claim to distinction vindicated by Shasta is a geological one.

The real birth and abiding glory of California may be traced to its volcanic origin, and this mountain represents a picturesque and striking triumph of the Titanic upheaval which opened up nature's stores of precious minerals and made the sublime almost a commonplace in California scenery.

The entire mass of the mountain is of volcanic origin, the base consisting of trachitic lava and the more elevated portion of basaltic rock, there being but little scoria, ashes or other loose material to be seen, except near the summit, where there is a heavy bed of volcanic breccia. That this, however, as well as the adjacent cone and many other peaks scattered over the country to the north, is wholly of volcanic origin, having been erupted from a crater-like orifice, admits of no doubt.

Situate in the southwesterly portion of Siskiyou County, Mount Shasta reaches an altitude of 14,441 feet, or nearly three miles.

For 4000 or 5000 feet below its summit it is covered with snow all the year around—this being the only mountain in the State that remains snowclad for any considerable distance below its summit throughout the entire year, Lassens Peak, the Downieville Buttes and all the more lofty points in the State losing their snow late in the summer, except where it has drifted into deep ravines or lies under the shadow of cliffs on their northern slopes.

The base of the mountain is covered, except on the north, to the height of between 7000 and 8000 feet, with heavy forests of sugar and pitch pine.

On its northern slope, owing to the poverty of the soil, the only trees found consist of stunted cedar and oak.

Scattered through the higher portion of this timber-belt occur patches of chaparral, which, being indicative of a barren soil, are locally known as the "devil's acres."

Up to an altitude of 7000 feet the trees are of the usual dimension; at 8000 feet forest trees disappear entirely, a few stunted and hardy shrubs struggling for existence up to the height of about 9000 feet, between which and the line of perpetual snow scarcely a moss or lichen is to be seen.

Above the latter point and reaching to an altitude of 12,000 feet the only sign of life met with is a low form of vegetable of a vermilion color, which, generated in and staining the snow, causes this belt to be known as the "red snow."

Above the fields of this most primitive vegetation the cone of the mountain lifts itself—a glittering pavilion of untarnished snow.

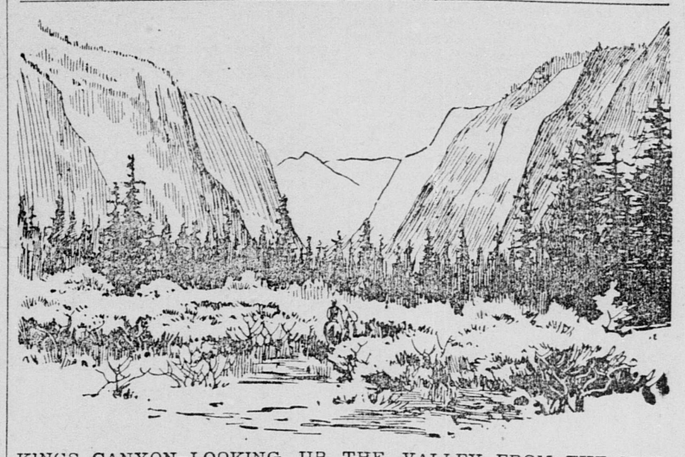
Such is a general description of this grand peak, which exerts a natural fascination that never fails upon mountain climbers and seekers after the beautiful, to be won in the magnificent prospect from its summit.

The best season for ascending the mountain is in the month of July or August.

Earlier than July the snow is not sufficiently lessened, while toward the end of the summer the fires, common in the forests, fill the air with smoke, interfering with and often completely destroying the view.

The ascent is made from the west side, and until a height of 12,000 feet is reached is attended with no other difficulty than that always incident to the attenuated condition of the atmosphere at similar elevations.

Above 12,000 feet the ascent becomes more steep and laborious, the slope of the mountain



KINGS CANYON—LOOKING UP THE VALLEY FROM THE MANZANITA ORCHARD.

inclining at an angle varying from thirty to forty-five degrees.

Three days are required to make the journey with comfort and satisfaction.

The first night is spent near the line of perpetual snow; the next day is consumed in going to the top of the mountain and returning to the spot left in the morning, where the second night is passed, the balance of the descent being made the following day.

A good supply of blankets is required, as the temperature of this night camp generally falls to the freezing point before morning.

At an elevation of 13,240 feet a rudely circular and nearly level space occurs, evidently the bottom of an ancient crater, one side of which having broken away, a portion of its rim remains, forming the summit of the mountain, which lifts itself 1204 feet above.

On this level area are a number of orifices from which steam and sulphurous gases constantly escape, the feeble action of this solfatara being the only surviving manifestation of those stupendous forces that piled up the masses that form this extinct volcano.

It is on record that on one occasion at least the life of a daring winter explorer was saved by the warmth of this solfatara amid the surrounding fatal cold.

The thermometer at midday in summer generally stands below the freezing point on the summit of the mountain.

The air about its top is cold, even in the warmest weather, and is almost always in brisk circulation, the summit being frequently swept by strong gales that keep exposed portions of its sides denuded of snow.

The outline of this mountain, from whatever side viewed, presents a nearly regular cone, the symmetry of which is somewhat marred, when observed from the southwest, by the interposition of the side cone not 2000 feet lower from the main mountain, from which it stands wholly separated.

This lesser peak has been called Shastina.

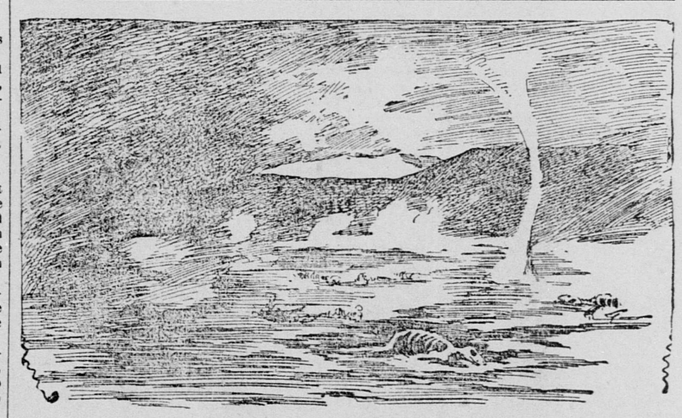
It has a well-defined crater-cup at its summit that is in diameter about 3000 feet, or a space large enough to contain about six blocks square in a city.

This open crater-mouth is about 1500 feet deep, and the gigantic bowl of lava in volcanic days gave way in its rim on the west side and poured its red-hot liquid product all over the country.

The sky outline of Shasta has a general inclination of about 28 degrees on one side and of 31 on the other, while the westerly slope of Shastina inclines at about 36 degrees.

A beautiful impression in taking a farewell look at Mount Shasta is its glistening radiance.

For while, as stated, certain exposed and rocky portions of the main mountain are denuded of snow, these bare spots disappear when viewed from a distance, the whole surface above the snow line seeming an unbroken



A SAND STORM IN DEATH VALLEY.

sheet of white, distinctly separated from the dark belt of forest below.

Among the excursions available in the neighborhood are those to Horsesnoe Bend of the McCloud River, famous for its trout fishing; Castle Crag's summit, called the "Glacier Point" of the north; Castle Lake, Big Castle Creek, the Soda and Shasta Soda Springs, all offering points of interest, however overshadowed by the assertive sublimity of their mighty mountain neighbor.

KINGS CANYON.

If the great Yosemite Valley ranks high among the Seven Wonders of California for its marvelous geological features, hardly less prominence belongs to Kings Canyon, which, with all or more than all its rival's grandeur, possesses the additional charm of comparative novelty.

Little was known about this remarkable region until recently John Muir of Contra Costa County and C. D. Robinson, the San Francisco artist, published its praises. It is to these gentlemen's exertions that the world is indebted for this treasure trove.

"Whoever invents a new idea," says the philosopher, "is a benefactor to society."

Then thrice blessed he who discovers a new country, a new field for wonder and exploration, a new Yosemite.

Imagine the gratitude of a guidebook-weary mortal toward the discoverers of a land unnoted of Murray, Baedecker or the ubiquitous Cook; a land unpenetrated by lunch-eating, name-notching Philistines, where the sole of the foot of no soap agent has left a desecrating trace.

Is there, can there be any such a land in these days of beaten paths?

That is just the secret. You must go a little out of the beaten paths.

In the lower portion of Fresno County, in the vast Sierra wilderness far to the southward of the famous Yosemite Valley, extends the Big Kings River Canyon or Kings River Yosemite.

It can be reached from Visalia, forty-five miles distant on its southwest side, or by the Kearsarge Pass on the east side of the range.

The canyon is about ten miles long, half a mile wide, and the stupendous rocks of purplish gray granite that form the walls are from 2500 to 5000 feet in height, while the depth of the valley below the general surface of the mountain mass from which it has been carved is considerably more than a mile.

"Thus it appears," says Mr. Muir, "that this new Yosemite is longer and deeper, and lies embedded in grander mountains than the well-known Yosemite of the Merced."

As in the latter, infinite charm is found here in the music and animation of mountain streams.

Faulike cascades, trembling freshets, swirling pools peopled with trout hasten to mingle with the central river. But the volume of falling water is nearly twice as great as that which swells the Merced. For the area of the basins drained by the streams entering this "new" valley is about 450 square miles and the elevation of the rim of the general basin is from 9000 to upward of 14,000 feet above the sea; while the general basin of the Merced Valley has an area of 250 square miles and its elevation is much lower.

The walls of the valley, which at the bottom is about 5000 feet above the sea, are not so perpendicular as in the Yosemite, but yet rise abruptly. From their brink on either side the ground still rises in a series of ice-carved ridges and basins, superbly forested and adorned with many small lakes and meadows, where bear and deer find grateful homes; while from the head of the valley mountains other mountains rise beyond in glorious array, every one of them shining with rock crystals and snow and with a network of streams that glide from lake to lake through a labyrinth of ice-burnished canyons.

The winter snow falls here to a depth of from ten to twenty feet, still in spring and summer the flora is profuse and varied. The frailest flowers, blue and purple and gold, spread their pretty tapestry on every colgn of vantage.

Once down in the valley a wide plateau presents itself, planted with stately groves of sugar pine, yellow pine, silver fir, incense cedar and Kellogg oak. There is a little underbrush and many flowers. Up above tower giant walls 1500 feet, rising out of the sloping sides.

Three miles up the valley on the south side are the Roaring Falls and Cascades.

These are on a large stream called Roaring River, which has a downpour of nearly 500 feet per mile. The fall, however, when the waters arrive at the valley, is insignificant in height as compared with the similarly situated Bridal Veil of the old Yosemite. But the river has a series of cascades above the fall which represent the force of a volume of water five times as large as the Bridal Veil Creek and are wildly beautiful.

Near the fall on the east side are the Cathedral Rocks rather higher than the group of the same name in the Merced Valley, but otherwise curiously like.

"Next to Cathedral Rocks is the group called the Seven Gables, massive and solid at the base, but elaborat ly sculptured along the top and a considerable distance down the front into pointed Gothic arches, the highest of which is about three thousand feet above the valley.

"Beyond the Gable group, and separated slightly from it by the beautiful Avalanche canyon and cascades, stands the bold and majestic mass of the Grand Sentinel, 3300 feet high, with a split vertical front presented to the valley as sheer and nearly as extensive as the front of the Yosemite Half Dome.

"Projecting out into the valley from the base of the sheer front is the Lower Sentinel, 2400 feet high; and on either side the West and East sentinels, about the same height, forming altogether the boldest and most massively sculptured group in the valley.

"Then follow in close succession the Sentinel Cascade, a lace-like strip of water 2000 feet long; the South Tower, 2500 feet high; the Bear Cascade, longer and broader than that of the Sentinel; Cave Dome, 3200 feet high; the Sphinx, 4000 feet, and the Leaning Dome, 3500 feet.

"The Sphinx, terminating in a curious sphinx-like figure, is the highest rock on the south wall and one of the most remarkable in the Sierra; while the whole series from Cathedral Rocks to the Leaning Dome at the head of the valley is the highest, most elaborately sculptured and the most beautiful series of rocks of the same extent in any Yosemite in the range.

"To the northward toward the foot of the valley a grand and impressive rock presents itself, which with others of a like appearance, is called the Palisades. It is about 2000 feet high and is fluted so as to look like a mass of huge slabs set on edge. This, though slighter in dimensions and less bold in attitude, might be compared to El Capitan in the Yosemite."

Traveling along up the valley the next feature is the Hermit Towers, separated by the Hermit Canyon from the Three Hermits. These Mr. Muir in his description compares to the Three Brothers of Yosemite.

"East of the Hermits a stream about the size of Yosemite Creek enters the valley, forming the Booming Cascades. It draws its sources from the southern slopes of Mount Hutchins and Mount Kellogg, 11,000 and 12,000 feet high. In Avalanche Canyon, directly opposite the Booming Cascades, there is another chain of resounding minor falls, and these two roar across the valley to one another with hearty accord.

"Above the Booming Cascades and opposite the Grand Sentinel stands the North Dome 3450 feet high. It is set on a long bare granite ridge, with a vertical front like the Washington column in Yosemite.

"A short distance east of the Dome is Lion Rocks, a very striking mass as seen from a favorable standpoint, but lower than the main rocks of the wall, being only about 2000 feet high.

"Beyond the Lion and opposite the East Sentinel a stream called Copper Creek comes chanting down the valley. It takes its rise in a cluster of beautiful lakes that lie on the top of the divide between the south and middle forks of Kings River to the east of Mount Kellogg. The broad, spacious basin it drains abounds in beautiful groves of spruce and silver fir and small meadows and gardens