

### A PETRIFIED FOREST COVERING THOUSANDS OF ACRES.

BY CHARLES ALMA BYERS.

Lying in the eastern part of Arizona, scarcely outside the borders of the Painted Desert, and glistening like a field of huge, rare gems under the rays of the seldom clouded sun, is the famous Petrified Forest of the United States. It is a parched and almost barren expanse, covering several thousand acres, strewn with prostrated monuments to epochs in the history of vegetation otherwise unchronicled.

To what age these petrified logs owe their origin, and of what epoch and evolutionary processes they mutely tell, is unknown, but their antiquity is well testified to by their appearance.

The opinion, doubtless well founded, is that at some time in the misty past a large forest of stately pines grew here. Years passed, and in the course of time they were prostrated by some unknown force, probably by eruptive volcanoes, to the earth, and over them drifted snow-like layers of sand. Next over the area spread the waters of an inland sea, and all traces of the once green forest were crowded into complete oblivion. After another lapse of unreckoned time the sea vanished, and craters belched forth volcanic spume, to serve as a mantle to the ocean bed. The forest of the past slept, forgotten. In the ever-changing contour of the earth's surface, Nature is not always building. Material is indestructible and non-increasable. Consequently, to follow the periods in which the mantle over the forest was being builded, there must come a reversing time. It came. Rains fell, and as the water hurried toward lower levels, it gnawed the mass and labored constantly toward the resurrection of the pines. Erosion was at work, and after centuries it has accomplished its object over the greater portion of the area—the logs from the ancient forest are revealed to modern eyes. But how



"The Lonely Sentinel." Petrified Wood in Foreground.

to study the effect of erosion. The mesas, many towering sentinel-like, are composed of shale, clay, and sandstone, and down their sloping sides wind many tiny crevices. When it rains here, which is seldom now, water trickles down these crevices, and thus small particles of the mesa's substance are borne away. By pondering upon this sight, one is given a faint idea

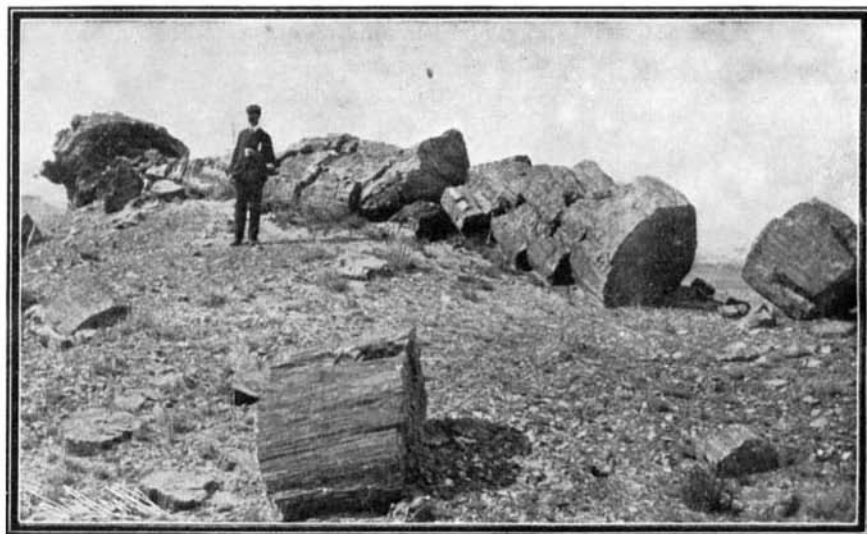
wood, though all are as hard as adamant. There are sections that appear as if decayed, and piles of smaller pieces that look enough like chips to tempt one to try a match on them; but picking up one of these bits, he finds it almost as heavy as so much lead and as dense as a piece of flint. The mineralogist, analyzing these fragments, finds in them chalcedony, topaz, carnelian, onyx, agate, and amethyst; and if questioned, will advance the theory that each substance represented owes its existence to the state of preservation of the log at the time of its petrification, and to the stage it reached in compactness prior to being unearthed. The government, since it has declared the forest a public reserve, prohibits the removal by the visitor of any large blocks, though any one is at liberty to make a collection of smaller pieces as mementoes.

In another section of the forest the visitor finds the famous natural bridge; a huge, petrified tree trunk spanning a cañon-like ravine fifty feet wide—a bridge of agate and jasper overhanging the only clump of living trees within the forest's borders. Each end of the log is embedded in shale and sandstone, leaving one hundred feet of it either wholly or partly exposed. How much of its length still remains completely buried is unknown, but each year the action of the elements brings more into view. So far, time has graciously spared the integrity of this natural curiosity, but in the last few years the log has begun to show signs of yielding to the natural inclination of petrified trees, and in several places transverse cracks appear. Fearing that the bridge would tumble to destruction, the government has recently had two stone abutments erected under it, making of it a bridge of three spans. This no doubt will preserve it for at least several years yet.

While there is a similarity between the different divisions of the forest, a drive to all portions of it will be found interesting, despite the driver's assertions to the contrary. During a recent visit to the forest, I



The Petrified Bridge.



A Petrified Log Broken into Blocks.

changed they are! As they reposed in their grave, the sybaritic chemistry of Nature transformed them from sappy and sapless wood into logs of stone.

Such is briefly the conjectured history of the Petrified Forest, which, having recently been set aside as a government reserve, is divided into an eastern and a western section, respectively containing about two thousand and three thousand acres of practically valueless land. Such has been Nature's work in the creation of the garden of monuments to ancient vegetation, which hundreds of people from all parts of the world are annually flocking to view.

Leaving the Santa Fe Railroad at either Holbrook or Adamana, the traveler engages a carriage, and starts southward toward the forest. The trip at the start is uninteresting, for there is naught to view save a limitless plain; but after riding a few miles, stray bits of petrified wood sparkling by the roadside begin to attract his attention. In a few minutes he espies larger and larger blocks. Presently there appear trunks of trees, then huge logs, some more than a hundred feet long, tumbled about in confusion, or lying just as they were bared by the action of the elements in the process of resurrection.

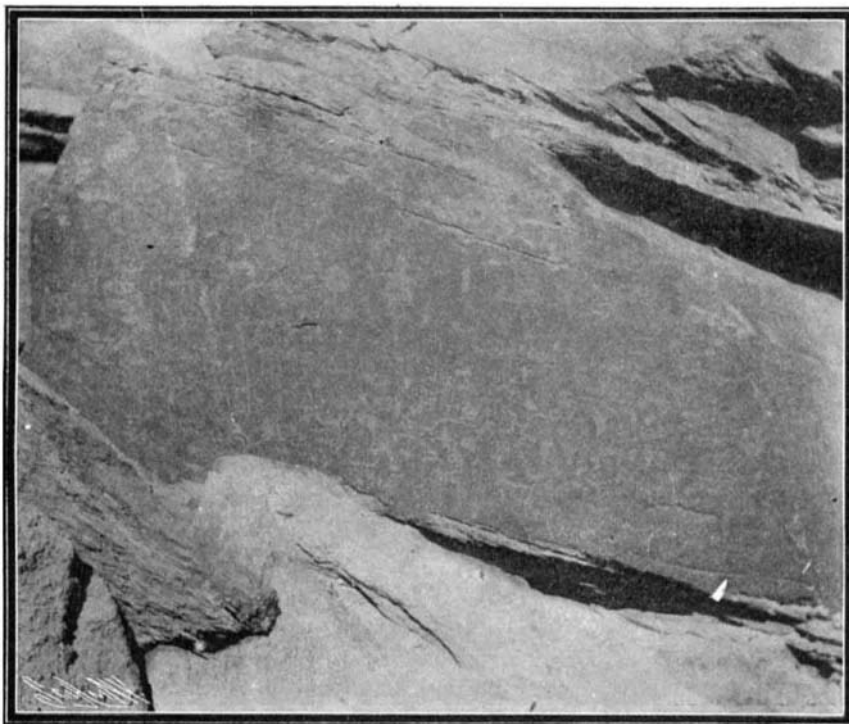
The traveler is now in the Petrified Forest. In every direction are to be seen pieces of petrified wood, ranging from the size of a toy marble to blocks and logs eight and nine feet in diameter. Some are still partly buried beneath shale, and occasionally from the side and near the top of some mesa, with which the ancient ocean bed is dotted, projects the end of a log. Here is an excellent opportunity

of the number of years that have passed since this thick blanket began to erode.

Stepping from the carriage and strolling about, one notices segments of logs, almost always broken by transverse fracture, representing nearly every conceivable color, and with all of its different shades. Among them are black, red, white, yellow, blue, purple, and lavender; and each piece shows some resemblance to

insisted on acting as my own guide, and as a result several places hitherto unexplored were visited. At one of these almost secluded spots I found a deposit of petrified sage-brush roots—indisputable evidence that the chemicals which had worked such wonders on the pine logs were equally as powerful in effect on other fibrous substance.

Here is also study for the ethnologist. Scattered about over the area covered by the Petrified Forest are the remains of a prehistoric race of people—the fast-disappearing remains of that race of people known as Aztecs, that once inhabited Mexico and the southwestern part of the United States. There are crumbling walls of ancient habitations, broken bits of curiously painted pottery, and on the large rocks of a nearby cliff strange and as yet uninterpreted hieroglyphics. Drifting sand has nearly buried the old walls, but for the opportunity of studying this ancient masonry many of them have recently been resurrected. Between these old remains and the not far distant dwellings of the Pueblo Indians of to-day there is noticed a striking similarity, and the belief, now seldom disputed, is that the latter are the descendants of the Aztecs. That such is a correct belief in the matter of genealogy is evidenced also by a similarity in the pottery and the arrowheads found here. Instead of flint, however, petrified wood is used for these arrow-points, and it evidently made good ones.



Uninterpreted Hieroglyphics Near the Petrified Forest.  
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The Western Pacific Railroad is said to be fully financed. Construction will begin without delay, and the Boca and Loyaltan Railroad has been purchased.