

NOT PETRIFICATION.

NEVER WAS SUCH A THING AS A PETRIFIED HUMAN BODY.

A Few Facts on a Subject Which Is at the Mercy of Popular Ignorance—Cliffs on the Yellowstone River—What Petrification Really Is.

One reads almost every week in the newspapers of the finding of a "petrified" human body. Such a thing never did and never will exist. Nevertheless, so dense is the popular ignorance of such matters, and so ready the human mind to be deluded, that reports of this kind are commonly accepted as facts. It would be well if they could be deprived of credibility for all future time by the publication of a few truths on this subject.

In the first place a "petrification" is not, strictly speaking, a transformation of the original animal or plant into stone. It is merely a replacement of the organic tissue by mineral substance. As each particle of the plant or animal decays and disappears, its place is taken, usually in water or mud, by a particle of mineral matter deposited from the water which has held it in suspension. Thus the perishable original is changed into imperishable stone, preserving its form and even its structural appearance when cut into.

By such means have the skeletons of animals millions of years old been preserved in the rocks of the everlasting hills, so that they may be reconstructed today as they were ages before man appeared on the earth. But it is only the bones that are in this way kept; never the flesh, because water cannot percolate through it. In the same way whole forests of trees in the Yellowstone region and elsewhere are changed into agate and other forms of stone, the hollow logs of the forest primeval being often found filled with beautiful crystals of quartz and amethyst.

The cliffs that border the eastern branch of the Yellowstone river afford a view of a series of such forests buried on top of one another. The lowermost level was originally a wooded plain, hundreds of thousands of years ago. Volcanoes burst forth in the neighborhood, and it was overwhelmed by their debris. On top the latter fresh trees took root and grew, to be in their turn buried by subsequent eruptions. This sort of thing continued through century after century, until 4,000 feet of accumulations were heaped above the forest at the bottom.

Beneath the hills thus formed water flowed, as it does constantly through the earth's crust. The buried trees gradually decayed, and their decomposing substance was replaced by mineral matter, transforming them into stone. Afterward the Yellowstone river cut down through the strata formed of volcanic debris in the manner described. For thousands and thousands of years the great stream plowed out its bed, until today the latter is a cut 4,000 feet deep—a canyon walled in by towering cliffs. And as one looks upward at those cliffs the buried forests are plainly to be seen in the successive layers composing them. They can be counted easily, the reckoning carrying the observer back to the very night of time, when real dragons and chimerae dire walked on the earth, swam in the seas and flew in the air.

Nearly all the trees which line these wonderful cliffs are turned into agate. One can climb up and knock them off, as they break readily into sections. Many of them, which were hollow before they were buried, are filled with beautiful crys-

tals of quartz and amethyst. Water, percolating into such hollow trunks, brought particles of silica, which formed themselves into crystals, finally filling up the cavities. It is in hollow parts of buried trees that nearly all existing crystals of amethyst and quartz were originally formed. They are treasures which were hidden away by the hand of nature in old logs and stumps. Amethyst of course is merely quartz crystal with a little coloring matter from metallic oxides.

Much of the agatized and jasperized wood found in various parts of the west was thus transformed under water. There is a fossil forest of such material at Los Cerillos, N. M., and another at Chalcedony Park, A. T. It is largely used for ornamental purposes. The trees fell and were submerged, becoming silicified in the manner already described. While this was going on, spores of fungi floated into the cracks in the trunks and branches, germinating and extending their threads of mycelium through the decaying wood. These threads are still visible in the "petrified" wood—the word "petrified" is considered preferable—substance ramifying through the cells of the wood. The water also brought salts of iron in solution, which were secreted by the fungus and afterward deposited by it, thus enriching the coloration of the fossilized structure.

Iron, being plentiful in many rocks and readily soluble, often replaces organic substances and forms fossils. In the department of prehistoric anthropology at the Smithsonian institution is preserved a human skull of iron, which was dug out of a hillside not long ago. Not only has iron replaced the substance of the bone, but the brain cavity is filled with the metal, so that the skull weighs many pounds. The hill in which its owner was buried was rich in iron ore, of course.

Shells, inclosed in the strata of hills, are sometimes transformed into opal by a process of fossilization, opal being merely a form of quartz. Petrifications, properly termed fossil remains, of plants are readily distinguishable in beds of coal, so that it is easily determined from what sorts of giant ferns and other trees the coal was originally formed. Among the most ancient of fossils are numerous insects, which, despite the delicacy of their structure, have been preserved through millions of years for the instruction of a modern generation, the very fluff on the wings of the primeval moth being plainly distinguishable.

Most of the bodies reported in the newspapers as found "petrified" are examples of a phenomenon long familiar. They have been transformed not into stone, but into a substance called "adipocere," or "grave wax." This is a true soap, into which the corpse of a human being will ordinarily be metamorphosed if buried in a graveyard or other place where water has access to it.

This adipocere is one of the most enduring of substances. It is not subject to decay, and the body which has assumed this constitution may preserve its form for many years, and even for centuries—nay, for ages, since evidence on the point has been obtained from the orthoceras, a mollusk that became extinct millions of years ago, of large size, and built after the pattern of the chambered nautilus, but with a straight shell.

In shells of the orthoceras has been found adipocere—the flesh of the animal transformed into the soapy substance described, which would thus appear to have been preserved intact from the silurian epoch until now.—Washington Star.

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BETTER TO DIE THAN FALL IN LOVE

Well he slumbers, greatly slain,
Who in splendid battle dies;
Deep his sleep in midmost main,
Pillowed upon pearl who lies.

Ease, of all good gifts the best,
War and wave at last decree;
Love alone denies us rest,
Crueler than sword or sea.

—William Wilson in Christian Education.

Eels and Their Spawns.

Young eels in passing up a river show the most extraordinary perseverance in overcoming all obstructions. The large floodgates—sometimes 15 feet in height—on the Thames might be supposed sufficient to bar the progress of a fish the size of a darniug needle. But young eels have a wholesome idea that nothing can stop them, and in consequence nothing does. Speaking of the way in which they ascend floodgates and other barriers, one writer says: "Those which die stick to the post, others, which get a little higher, meet with the same fate, until at last a layer of them is formed, which enables the rest to overcome the difficulty of the passage. The mortality resulting from such 'forlorn hopes' greatly helps to account for the difference in the number of young eels on their upward migration, and that of those which return down stream in the autumn. In some places these baby eels are much sought after and are formed into cakes, which are eaten fried.

Eels spawn like other fishes. For long however, the most remarkable theories were held as to their birth. One of the old beliefs was that they sprang from mud. A rival theory held that young eels developed from fragments separated from their parents' bodies by the rubbing against rocks. One old author not only declared that they came from May dew but gave the following recipe for producing them: "Cut up two turfs covered with May dew and lay them one upon the other, the grassy sides inward, and then expose them to the heat of the sun. In a few hours there will spring from them an infinite quantity of eels."

To Be In the Fashion.

"Now that we are in a position to enter society, Edmund," said Mme. Newriche, "I want you to do me a favor."

"What is it, Maria?" queried Mr. Newriche. "Isn't your new carriage good enough?"

"That's all right, dear," replied Mme. Newriche. "But I do wish you'd get one of those receivers that so many men are having now."—Chicago Record.

Lobsters are not peace abiding crustaceans. They cannot be persuaded to grow up together peaceably. If a dozen newly hatched specimens are put into an aquarium, within a few days there will be only one—a large, fat and promising youngster. He has eaten all the rest.

Mohammedans think the oath only positively binding when they are sworn upon the Koran, while the Hindoo prefers to swear by touching with his hand the foot of a Brahman.

The latest statistics prove that more than two-thirds of the grown male population of the globe use tobacco in some one of the many forms in which it is taken.

"Young gentlemen," said an earnest speaker, addressing a company of college students, "if you have a spark of genius in you, water it!"