

GEOLOGY

# Vanished Lands

## Stories of Mu and Atlantis, Lost Continents, May Be Myths, But Geologists Know of Many Lost Regions

By RONALD L. IVES

**T**HE PRINCE of Atlantis, sitting sadly on the shore of Mexico, weeping for his vanished homeland, may be only a novelist's dream. Perhaps the homesick wanderings of the exiled children of Mu, after the foundering of their continent into the depths of the Pacific, never took place. Perhaps man never saw lost lands like these.

Vanished lands, however, are being discovered yearly by geologists. Deep under waters of the Atlantic are canyons that could hold the Grand Canyon of Arizona with room left over. Under the English channel is the valley of the ancestral Rhine. Deep in the Mediterranean sea is the ancient harbor of Tyre. Cities under the sea are not uncommon; and man has occupied the earth for only about 1/2500 of geologic time. Great lands were engulfed during the millions of years before man appeared on earth.

Atlantis, perhaps, was only a myth started by Plato, but recent studies by geologists suggest that at one time, probably 300,000,000 years ago or more, when the ancestors of our common toad were the highest forms of life, there were great land areas in what is now the Atlantic Ocean.

Measurements of the gravity of the ocean floor, conducted in recent years, have given us some surprising facts, which may be explained by the presence at some great depth under the ocean of a foundered land mass.

### Down Warped

Recently, Dr. Richard N. Field, of Princeton University, suggested that under the Atlantic there may be "a vast area of downwarped Pre-Cambrian and Paleozoic geology," perhaps as complicated in structure as the upwarped structures of similar age (more than 300,000,000 years) on the continents.

The evidence for this vast "Atlantis" of bygone pre-human ages is not complete. Recent studies have supplied more facts, and more work is being done. Perhaps, if these suggestions are supported by later findings, we may find that some millions of years ago, instead of lemmings fleeing from central Europe

into the sea, amphibians, similar to our modern toads, migrated from Europe to America!

American geologists, studying the rocks that now make up our Appalachian mountains, find that they must have been formed from materials eroded away from a mountainous land to the east—probably far to the east, in a place where the waters of the Atlantic now are. This land, called Appalachia by Charles Schuchert, eminent student of the lands of the past, may have been a part of the ancient and now submerged Atlantic Continent.

Lemuria, a hypothetical continent in the Indian Ocean, may have once existed. Long ago, geologists found that a land mass occupying parts of the Indian Ocean would explain the close geologic connection between India and Africa. The land mass wasn't there, so they assumed that it had foundered into the sea. Recently, an elevated portion of the sea bottom has been found on the exact location of this hypothetical continent. Is it the lost land of Lemuria?

### Perhaps

Perhaps on this vanished continent man evolved from his lemur-like ancestor in the days before the cataclysm that sunk it. Here also, according to various theories, the plant and animal life of India and Africa crossed from one land to the other. Many theories, and a few facts, tell us that this continent may have existed, but today it is numbered among the missing.

The Pacific, too, once swallowed a continent, according to various legends collected by the late Col. James Churchward, who wrote a number of books in an ineffectual effort to prove the former existence of the continent of Mu. Perhaps, from the mass of evidence collected by many workers, we may eventually find evidence, in the Pacific area, of a former chain of islands which furnished stepping stones by which ancient man crossed the Pacific. Mu, as a great continent, probably never existed, but islands in the Pacific do occasionally disappear. Only a few years ago, astronomers planned to observe an eclipse from

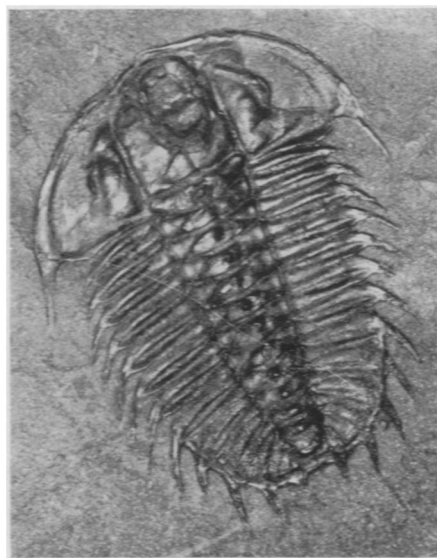
little Sarah Ann island, and when they arrived at the site, with a shipload of telescopes and cameras, the island "showed up missing."

Perhaps the nearest thing to a reenactment of the mythical foundering of Atlantis occurred in the Cook Island Group, in 1836, when Tuanaki Island suddenly sank into the Pacific, with a loss of thousands of lives. Perhaps some of the legends of lost continents originated from a similar occurrence in the remote past.

### Ruins Are Evidence

The ruins on Easter and other islands in the South Pacific have been used as evidence of a lost continent in that area. Now, with modern knowledge of the migrations of ancient races, and some ideas about the rising and falling of sea levels, it seems more probable that there never was, during man's occupancy of the earth, any really great interchange of land and sea. Relatively small areas have submerged, and similarly small areas have emerged from the sea, but the continental masses have not changed appreciably since the beginning of the Pleistocene ice age.

Continental masses have divided up during geologic time, and have sometimes been rejoined. Much that is now



**TRILOBITE**

*Creatures like this lived 500,000,000 years ago and died in the mud of a sea that is no more.*



#### DRIFT LOGS ON THE DESERT

*They floated, 150,000,000 years ago, on the Jurassic Sea. Now they lie on the desert lands of Arizona.*

land was once shallow sea, and some of our present seas were land areas at one time. Hudson Bay, in Canada, now a vast sea, was, until a few million years ago, an area of dry land. Perhaps the most interesting example of a land mass that has been sea bottom is the area known to geologists as Siouxia, and shown on ordinary maps as parts of Kansas, Nebraska, Colorado, New Mexico and Arizona.

Siouxia, during the time when life was just beginning on earth, was a part of the ancient North American Continent. Some 500,000,000 years ago, ancient North America foundered into the Paleozoic sea, leaving Siouxia as an island. Some millions of years later, a slight uplifting of the foundered land masses raised the little continent of Siouxia and joined it to the ancient continent of Canada.

#### Sank Again

Shortly after this, as geologists measure time, the lands sank again, leaving Siouxia an island continent, about one-third as large as Australia. After a few million years more, Siouxia was joined to another island continent, Mexicoia, by a slight lowering of the level of the ancient seas.

While the great reptiles were evolving from simpler forms, Siouxia was a land mass, sometimes a part of a vast south-

ern continent, sometimes only a small island in a slimy sea. Part of it later became a mountain range, in the same location as our present Rocky Mountains. As the great dinosaurs reached their weirdest development, and became truly nightmare beings, little Siouxia foundered under waters of the Cretaceous sea, never to appear again as Siouxia.

#### America Emerged

As reptilian forms gave place to the warm-blooded mammals, lands all over the earth emerged from the sea, and Siouxia became a part of an Eocene North American Continent, which was very similar in shape to the North America of today. Now Siouxia, the little continent that was so many times submerged, lies a mile or more above sea level as a part of the great plains of the western United States.

The sites of many of our great seaports have been under water several times during geologic history. In fact, New York, many million years ago, was a place on the western shore of Appalachia. Now Appalachia is no more and New York is on the eastern shore of North America. What will the future bring?

Geologists find that in some areas the land is rapidly emerging from the sea—sometimes as fast as one foot in

fifty years. Other shore lines are sinking, at a comparatively fast rate. Does this indicate a change in the shape of our continent? If so, when will it happen?

Perhaps, within the next twenty thousand years, the slight changes now taking place, if continued, will make a change in shoreline that will show on a page-sized map.

What causes these changes? Geologists believe that the last ice age is responsible for many of them. When the ice covered the northern parts of all the continents in the northern hemisphere to a depth of perhaps a mile, the land sank under the weight, and the sea levels dropped as water was removed to make up the ice caps. Now, with most of the ice melted off, the sea levels have risen, and the land, freed from the weight of the ice, is slowly rising to its former position.

#### Ice Still Melts

There is still a small amount of ice remaining on earth. Perhaps it will melt away, some hundreds or thousands of years in the future. What will this do to our shoreline? Will the future see New York a great area of water, with the rusted remains of skyscrapers rising as menaces to navigation? Will St. Louis be the harbor at the mouth of the Mississippi? Perhaps, for a complete melting of all the remaining ice masses on earth would raise the sea level about 100 feet. Will this occur? Nobody knows. Our observations have only continued for about 100 years, and we can only reconstruct with certainty a few hundred years of detailed geologic history before that.

Probably the changes in sea level and shoreline will be partly offset by rising of the land as ice melts away. At any rate, the changes will be so slow that man will have nothing to fear from a sudden inundation. New York's penthouse dwellers need not keep lifeboats.

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Many biologists believe that land bridges once connected the various continents for a few million years, allowing various animals and plants to migrate from one continent to another. After the migration, the land bridges slowly sank, and development of animal and plant life on the various continents went on, each continent evolving its distinctive life forms from a common ancestry without further contact with the parent continent. Thus, the elephants evolved in ancestral Eurasia, and migrated to North America, while the horse probably originated in North America, and wandered over a now-vanished land bridge to Asia and later to Africa.

Vanished land bridges in the Bering Sea area may explain the coming of man to the American Continent. Perhaps he migrated along with the Mammoth and Mastodon, when Asia became overpopulated in some era of the remote past. Certainly, a land bridge from Asia to America, located in the Bering Sea area, is a more probable migration route for man than a lost continent of Mu, in the central Pacific, and a Bering Sea land bridge is geologically probable, while a continent of Mu can only be explained by theories that are not now accepted by the majority of geologists. Perhaps Atlantis, now regarded as a myth, will, in the not far distant future, again receive serious consideration. Soundings of the Atlantic basin recently checked by the most modern methods, show that a vast ridge runs down the center of the Atlantic, not very far under water, from near Iceland to the Falkland Islands, off the southern tip of South America. A very slight warping of the earth's crust would bring this ridge above the water, and another very slight warping, of only about 1/8000 of the earth's diameter, would plunge it into the ocean.

### Anything May Happen

Would this produce the cataclysm described by Plato, when tremendous waves and volcanic eruptions overwhelmed the great kingdom of Atlantis? Geologists know that almost anything may happen, but most of them believe that the destruction of Atlantis was a product of Plato's fertile imagination, rather than the result of a warping of the earth's surface. Still, "telegraph ridge," as this subsea mountain range is called, remains unexplained. Is it the remains of the lost Atlantis, which is supposed to have vanished 11,000 years ago, or the submerged backbone of the

vanished Atlantic Continent of more than 300,000,000 years ago?

### Continents Growing

At present, our continental masses seem to be growing. North America today is made up of the joined fragments of the ancient continents of Cascadia, Canadia, Siouxia, Mexicoia, Antillia, Apalachia, and perhaps others which geologists haven't discovered yet. South America and the other continents are likewise made up of fragments of older land masses, which, after uncounted millions of years of independent existence, of growing, shrinking, submersion and reemergence from the sea, have joined together into our present lands. Will there be further joining of land masses, leading perhaps to the creation of one great continent? Nobody knows, but geologists don't believe so. The trend, according to present theories, has been toward a greater separation of the present land masses.

What will the distant future, of say 100,000,000 years hence, hold for our continents? Most land areas have at one time or another been under the sea, some of them several times. Will the cities of the far future be built on what is now sea bottom, and the ships of coming civilizations steam serenely over the site of our present Rocky Mountains? Time alone will tell.

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