Islets Are Peaks on Submerged Ridge

Geology

Mid-Atlantic Rocks Upset Popular Geological Theory

FOUR tiny islets in the middle of the Atlantic Ocean, the largest of them only an eighth of a mile across, bear heavy evidence against the validity of the Wegener hypothesis of the westward drift of the American continents, which has proved very attractive to many geologists. Dr. Henry S. Washington, of the Carnegie Institution, discusses the significance of these rocks, and especially their bearing on the problem of the origin of the long submarine ridge of which they are a part, in the first issue of the Journal of the Maryland Academy of Sciences.

The islets are known as St. Paul's Rocks, and they stand up alone in the midst of the South Atlantic, almost midway on the shortest line that can be drawn between Africa and South America. But although the highest point on them is only 64 feet above high-tide mark, the islands are lofty mountain-tops. For they are a part of a 9,000-mile-long submarine mountain range, or ridge on the ocean bottom, that extends through the middle of the Atlantic Ocean throughout almost its entire length, and rises in places as much as 18,000 or 20,000 feet above the bottoms of adjacent deeps. Other peaks that raise their heads above the surface of the sea form the islands and island groups of the Azores, Ascension, Tristan da Cunha, St. Helena, Gough, and Bouvet. Of these, all except St. Helena lie directly on top of the ridge.

The course of the ridge is most peculiar and suggestive. It holds very closely to mid-Atlantic throughout, running almost directly north and south in the South Atlantic, swinging northwesterly to parallel the coasts of South America and western Africa, then north and northeasterly in the North Atlantic. In general, it runs parallel with the continental land lines through its whole length.

Geologists have long puzzled over why this ridge should exist and why it should follow the course it does. Two completely opposite theories have been advanced; one, that it represents the edge of a rift in the earth's crust caused by the pulling apart of the eastern and western continents; the other, that it is due to the squeezing together of the crust under the ocean basin, causing it to hump up.

The rocks of the little mid-oceanic islets furnish the clue. All the other islands located on the ridge are volcanic, and their lavas tell little, because they are melted rock, coming from unknown depths and resulting from imperfectly known physical and chemical processes. But the stone that forms St. Paul's Rocks is not a lava but part of the deep crust of the earth, like the granite of our older mountains on land, though even more massive and heavy, and different in its chemical composition. The group of St. Paul's rocks is the only place on the whole course of the ridge where the real crustal stuff from under the ocean bottom comes to the surface.

Dr. Washington finds that this massive rock shows signs of having been subjected to tremendous squeezing pressures, such as could have come only from sidewise thrusts humping up the ridge between them, and not from a tensional effect resulting from the pulling apart of the continents.

Science News-Letter, April 5, 1930

The Answer Is
In This Issue

What are two conflicting *theories* to account for the sub-Atlantic *mountain* range? p. 210—What is the *height* of the submarine *peaks?* p. 210—Can a *monkey* distinguish *colors?* p. 210—How soon will the number of *births* equal *deaths* in the U. S.? p. 211—How can *photography* aid in the prevention of *cancer?* p. 212—Where are *scientists* looking for the secret of *long life?* p. 212—What is the *beginning* of human *life?* p. 213—What is the basis of fictional "anti-gravity" *jumping belts?* p. 214—How much blood does the normal *heart* pump out in a minute? p. 216—What new *metal* "sandwich" may revolutionize *television?* p. 216—What is *waste* worth? p. 217—How *broad* is our system of *stars?* p. 221—When does the cottonwood tree not shed cotton? p. 221—Where will the total *eclipse* be visible this month? p. 222.

Monkeys

A monkey can tell the difference between colors, at least when he has been taught that one color means dinner-time and another doesn't. It has, of course, always been assumed that monkeys knew colors, but there was no real proof that they were not color-blind.

The test that proved the color sense was carried out by Prof. W. Trendelenburg of the Berlin Psychological Institute. He put pieces of apple in a box in the monkey's cage. When the box was filled he illuminated it with yellow light; when it was empty he used light of other colors. The monkey finally came to know that yellow signaled "food" and that other colors meant "no food." Consequently when other colors were flashed on the box, even though it contained pieces of apple, the animal paid no attention to it.

The critical test came when a color shade approximating yellow was thrown on the box. Then the monkey appeared to be restless, unable to make up its mind just what it should do.

Animal Psychology

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