

to prescribe for whatever emergency harasses a patient.

The Indian medicine man holds the airplane image in his hand and consults it, pretending to receive advice from it.

How widely the airplane god has spread among Choco and other Indians of Panama is not yet known. The wooden airplane is one of five assorted religious images collected in the region

by Capt. K. S. Anderson of the U. S. Army, and received by the Smithsonian.

It is not known, either, whether the airplane god is believed to have some specialized power over nature, as such gods often supposedly have. Perhaps the thought is that Dr. Patterson—or rather two Dr. Pattersons—now come more swiftly by air to the aid of the sick.

*Science News Letter, July 25, 1936*

## GEOLOGY

## The "Bays" of Carolina May Have Been Formed by Water

THE world's greatest area of supposed explosion craters, making the battlefields of Flanders seem like miniature models, may not have been due to explosions after all. They may have been formed by the far less spectacular action of water, dissolving underground beds of stone.

Such is the hypothesis of the origin of the famous Carolina "bays" advanced in *Science* (July 3), by Prof. Douglas Johnson, Columbia University geologist.

The "bays" of the Carolina coastal plain are not arms of the ocean, and probably never were. They are great oval depressions, each rimmed with a sand ridge that is highest on the southeastern side, and usually filled with timber growth. Although there are very many of them—hundreds of thousands in all, Prof. Johnson says—practically all have their longest diameter oriented in the same direction, from northwest to southeast.

Their peculiar and uniform shape, as well as this prevailing orientation, some time ago led Profs. F. A. Melton and William Schriever of the University of Oklahoma to offer the theory that they had been caused by the fall of an enormous shower of meteorites, possibly the fragmented head of a comet, during or before the Pleistocene ice age. Single meteorite falls are known to have great explosive effects, scooping out elliptical pits with raised rims. The Oklahoma geologists boldly extended this principle to a wholesale application on the South Atlantic coastal plain, and thereby started a very lively scientific discussion.

Prof. Johnson points out several objections to this theory. The rims of the "bays," he says, are not composed of material thrown out of the bottom, but of clean, fairly coarse sand, such as

might be blown up off a lake beach. Furthermore, he states, geological evidence indicates that the force that formed the "bays" acted in one direction, while the force that formed the rims acted in another. Despite the prevailing northwest-southeast orientation of the depressions, some of them are practically straight north-south, and there are a few at least that lie northeast-southwest. This would be practically impossible if they had been caused by a shower of rock or iron fragments all flying in the same direction.

Furthermore, Prof. Johnson continues, the area is underlain with thick beds of limestone; on which underground water acts to form caverns that in turn cave in and form sinks of various sizes. Bottom deposits in the "bays," and their association with these geological cave-ins, have persuaded him that they probably started as lakes in sink-hole basins, that subsequently drained, leaving their old sand beach-ridges where the prevailing winds had piled them.

*Science News Letter, July 25, 1936*

## MEDICINE

## Disease Transformed Into Another for First Time

FOR the first time in the history of medicine one disease has been transformed into another, an achievement that promises to be of wide significance to all biological science.

Dr. George Packer Berry of the University of Rochester School of Medicine reported to the American Association for the Advancement of Science, meeting in Rochester, N. Y., the production of a malignant 100 per cent killing tumor disease in rabbits by injecting into them a virus of a non-fatal skin disease to which had been added some completely heat-killed virus of the deadly disease.

No disease, whether caused by bacteria or filterable viruses (thought to be organisms too small to be seen with a microscope), had heretofore been changed into another. This discovery has important bearing upon questions of how diseases originate and why and how new diseases or strains of infection come into existence.

Out of Dr. Berry's discovery may come an explanation of why and how vaccination protects against smallpox, for instance. Also it is possible, said the Rochester scientist, for more than one kind of virus to infect a single cell of the body, a discovery that promises to be of importance in the study of cancer.

Rabbits have two diseases, one called myxoma which is malignant and very infectious. From this the bunnies never recover. The other, called rabbit fibroma, is nasty appearing but the rabbits never die from it. The diseases look somewhat alike. Both are caused by tremendously small unseen organ-

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