Prinsep, already mentioned (1833); C. W. Grant (1838), of the Bombay Engineers; J. E. Dekay, in his *Fishes of New York* (1861); Pieter Harting (1861); Sir Emerson Tennent, in his *Natural history of Ceylon* (1861); Count Castelnau, the ichthyologist (1861); E. Warren, of the Natal Museum, South Africa (1909); Alexander Meek, of the Dove Marine Laboratory (1918); and J. D. Ogilby (1907) and A. R. McCulloch (1925), well-known Australian ichthyologists. These men not infrequently narrated these accounts before scientific societies and later published in scientific journals.

Most of the nonscientific observers and some of the scientists had no knowledge of what other men in their own lands and especially in foreign countries had seen and written about. Some of the observers had seen the fishes while falling, some had been struck by the fishes, and some had eaten of the freshly fallen fishes. The mass of evidence is as prodigious in volume as it is widespread in time and space. To disregard all this evidence ranging from hearsay to scientifically attested, and to brand as "credulous" all those who, from personal observation or after much study of published accounts, accept much of it as credible, seems, as I wrote in Article I, to indicate a refusal to consider the evidence offered or an inability to evaluate it.

To my very great regret I have never witnessed a rain of fishes, as I have never seen some of the other unusual and extraordinary things about fishes of which I have written in the past 40 years. But if such things have not been physically impossible, and when after careful and critical consideration of the reports (from hearsay to scientific) from widespread sources the world around and from many reputable observers (some known to me personally)—reports which in detail corroborate each other, then I have ample justification for giving them credence, and so I still believe that:

Fishes fall from the sky with rain.

E. W. Gudger

American Museum of Natural History

Geopathology or Ethnopathology?

In referring to Francis Dieuaide's article (*Science*, 1945, **102**, 656), Frederick Sargent, II (*Science*, 1946, **103**, 316) states that "geopathology" is really a branch of biometeorology.

Actually, Dr. Dieuaide's "geopathology" has basically very little to do with biometeorology. True, climate, topography, food, and habit are correlative factors in both; however, they are not the principal factors in "geopathology." Dr. Dieuaide, among others, specifically mentions the "effect of social conditions" and "perhaps hereditary racial traits." In this connection it might also be mentioned that it is somewhat puzzling why Dr. Dieuaide appears to infer that hereditary racial traits are only of secondary importance.

Since we have the opinions of a medical man and a biometeorologist, I wonder if it might not be wise to call upon an anthropologist as an arbiter in this argument. I frankly doubt if anyone would care to lead with his chin. The fact remains, as Dr. Dieuaide very correctly pointed out, that "Geopathology is in its infancy." Nevertheless, it is my personal opinion that Dr. Dieuaide's article is laudable, in spite of the fact that a few minor comments appear debatable.

First, I believe that *Natural resistance and clinical medicine*, by Perla and Marmorston (Little, Brown, 1941) covers a good many of the problems mentioned by Dr. Dieuaide. Second, I believe that American medicine has been somewhat asleep in this regard. It had been my good fortune to obtain several papers in Japan prior to the war which dealt with some studies and research in this field. As a matter of fact, the Imperial Japanese Armed Forces collaborated in some of those studies.

Finally, in answer to Dr. Dieuaide's proposed term, "geopathology," I wonder if the term "ethnopathology" might not be more specific.

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A New Pennsylvania Meteorite

Recently one of my students, C. R. Bruce, brought to the laboratory for identification a specimen which had been resting in family cupboards for 61 years. The story was that in September 1886 a man was cutting corn on the Deutihl property, two and a half miles southwest of Bradford Woods, or seven miles northwest of Pittsburgh in Allegheny County, Pennsylvania. He heard an explosion and a rushing noise and ran to the home of George Hillman, who, on going to the field, found the specimen imbedded in the road and still warm. It has been in possession of the family ever since and is now owned by Mrs. Charles Amsler of Baden, Pennsylvania.

Inasmuch as it is in private hands, no opportunity has been afforded for detailed study, but preliminary examination indicates that it is a true stony meteorite or aerolite. As such, it is of considerable interest since it is the first recorded aerolite found in Pennsylvania. R. W. Stone (*Meteorites found in Pennsylvania.* Pennsylvania Topographic and Geologic Survey, Bull. G 2, 1932) lists five meteorites found in the state, but all these were of the metallic type, or siderites.

The Bradford Woods meteorite measures $55 \times 65 \times 85$ mm. and weighs 762 grams. It is shaped somewhat like an old-fashioned pan biscuit with one smooth, curved surface like the biscuit top and three more square faces like the broken faces of a biscuit. The surface has the glazed, varnishlike, pitted surface characteristic of meteorites and is nearly black. It would seem that it is a part of a smooth, pebblelike, elliptic body which, as it reached the earth's atmosphere, exploded, the broken surfaces becoming fused and pitted in the rush through the atmosphere.

A freshly broken corner of the mass made it possible to examine its mineral composition. It is made up of fine-grained, greenish, silicate material which is highly birefringent and has a high index of refraction and an

obscure cleavage. This is probably olivine. Accompanying the silicate is a small amount (possibly 2 or 3 per cent) of metallic iron, which is also visible on the unbroken surfaces. The specific gravity of the whole specimen is approximately 3.4.

From this preliminary examination it is evident that the meteorite is an aerolite with a small amount of metallic iron and may possibly be classed as an olivine achondrite.

It is hoped that the specimen eventually may be acquired by the Carnegie Museum of Pittsburgh or some other public repository so that a detailed petrographic and chemical study of it may be made.

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Another Superior Pith for Free-hand Sections

Mention of a pith other than elder (*Science*, 1946, **103**, 112) prompts the writer to communicate further information in that respect.

Botanists or plant pathologists in tropical or equatorial regions will find an advantageous substitute to elder pith in cassava (*Manihot utilissima* Pohl). It is even the writer's view that the latter is decidedly superior to the former in several respects.

As in the case of *Tetrapanax papyriferum* Koch (above reference), cassava pith has no vascular bundles or hard tissues. Moreover, when used dry it cuts beautifully under the razor, leaving a sheeny surface very soft to the touch. It can be sectioned very thinly without disintegrating, as does that of elder, in like circumstances.

The reason for this can be found in comparing the texture of both piths. Dried cassava pith ready for use has, in cross-section, cells measuring 160–250 μ by 100–150 μ. The cells are larger in the center than outwards and gradually decrease in size in that direction. In longitudinal section the dimensions are contrariwise uniform and vary throughout from 25 to 60 μ. Thus, were it not that they are organized in a tissue, the cells would be lenticular in shape, whereas elder-pith cells are globular and of dimensions somewhat larger than the above.

Extraction of the pith is quite simple and offers no difficulty whatsoever. Cassava stalks should be chosen straight and when the plants are fully mature. They are cut in lengths of about 30–40 cm. A stick of the diameter of the pith is inserted at one end of the fragment. Pushing the stick forces the pith out at the other end in a contorted rod. When straightened out, the rods are left to dry and are then ready for use. The rods can be obtained of a diameter up to 1.5 cm., but they are more usually of 1–1.2 cm., which is quite sufficient for sectioning with a hand microtome.

For cutting small objects the pith can be carved, while in the hand microtome clamp, similarly to paraffin blocks.

The writer has had such satisfactory results with cassava pith that elder pith has been totally discarded.

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