Virginia, Virginia, Arkansas, Minnesota and New Hampshire.

PRELIMINARY examinations of eight rivers in various parts of the United States with a view to the control of their floods would be authorized under the provisions of a bill reported from the House Committee on Flood Control. The preliminary examinations, according to the accompanying report, would be made for the purpose of ascertaining what a detailed survey would cost; what federal interest, if any, is involved, and what share of the expenses, if any, should be borne by the United States. The following streams and rivers would be included in those on which the examinations would be made: The Titabawassee and Chippewa rivers in Michigan, the Mohican River in Ohio, the Hocking River in Ohio, the Mokelumne River and its tributaries in California, the Waccamaw River in North and South Carolina, the French Broad River in North Carolina, the Fox River in Wisconsin and the Cumberland River and Yellow Creek in Kentucky.

DISCUSSION

HOW OLD IS THE PLEISTOCENE?

THE exploration of the cavern known as Gypsum Cave near Las Vegas, Nevada, is yielding important information concerning those hazy and nebulous years that separate the Pleistocene and Recent periods, in other words, the domains of paleontology and archeology.

The Southwest Museum of Los Angeles and the California Institute of Technology are cooperating in this work, which is in charge of Curator M. R. Harrington, of the former institution, with Dr. Chester Stock and Dr. E. L. Furlong, of the latter, in frequent consultation.

On the paleontological side the most interesting finds thus far have been in connection with the extinct ground-sloth Nothrotherium, which is one of the typical animals of the Pleistocene. Not only the bones but also large claws with horny covering still intact have been recovered, as well as its long, coarse, tawny hair and even bits of skin all preserved by the dryness of the cave. Very unusual also are the large beds of sloth dung in which the remains of the animal are usually found imbedded. Among other Pleistocene species represented in the cave are indigenous horses and an American camel.

On the archeological side, although some remains have been found left by Early Pueblo visitors probably from the settlements in the Moapa Valley thirty or forty miles eastward and even by the more recent Paiute, most of the artifacts thus far recovered from the cave may be attributed to the Basket-makers. These are the earliest people hitherto known to have occupied the Southwest and are supposed to have flourished about 1500 B. C.

It now appears that even earlier people had visited the cave, for pieces of painted wooden dart shafts unlike Basket-maker products have appeared at considerably greater depths than the deposits yielding typical Basket-maker artifacts.

Most important of all is the gradually accumulating evidence suggesting that the earliest human visitors and the last of the sloths may have occupied the cave at the same time. None of the evidences in themselves can be called conclusive, but taken together they merit serious consideration.

For example, we have in one archeological deposit a deeply buried stratum containing large pieces of sloth dung, charcoal and scattered artifacts. In another instance we have specimens of the painted broken darts mentioned before recovered at depths below the surface of from eight to ten feet, beneath a stratum of sticks containing sloth dung and hair, and in still another instance quartzite dart points of archaic form buried in the bottom of a rockslide near the surface of which, beneath a large slab, was found a nearly perfect sloth skull.

Farther back in the cave the compact layers of sloth dung have yielded a few pieces of dart-shafts and of burnt sticks once apparently used as torches; and in the crevices of the rocks, sloth dung, bones of the sloth and artifacts have frequently been found in association, but in the last case the evidence is of less value than in the previous instances.

Should the association of man and sloth be finally established beyond doubt an interesting question arises. Shall we postulate that man existed in America twenty or thirty thousand years ago, which is the age generally attributed to the last phases of the Pleistocene, or shall we assume that Pleistocene animals and possibly conditions persisted until within ten or fifteen thousand years or possibly even less? In other words, just when did the Pleistocene end?

M. R. HARRINGTON

Since the foregoing article was written, Mr. Harrington has discovered in Gypsum Cave evidence which to his mind "establishes the association of man and the sloth beyond question." The Southwest Museum, which owns Gypsum Cave, will endeavor to preserve the evidence *in situ*, without disturbance, so

that any well-accredited scientists who feel so disposed may investigate it at their leisure.

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THE FUTURE OF TAXONOMY

THERE is one point in Dr. Mickel's interesting discussion[1] which seems to need further comment. He refers to the small group of taxonomic workers in Washington, "flooded with specimens of insects sent in from all parts of the country for identification, so that the amount of time that can be spent in actual research is exceedingly small." Also to the specialist on Coccidae "so loaded down with routine identification work and administrative duties that he has practically no time for research." Whatever may be said concerning the ability or industry of particular workers, we are here concerned with a matter of policy, and criticism must be directed to those "higher up"—ultimately to the highest power, the people of the United States, who permit such things to be. The truth is, however, that in the long run, even with existing facilities, it would pay to do much more revisional or monographic work. Only a few days ago I received a letter from a worker in the National Museum, explaining the difficulty of conducting exchanges, because so many of the species of a certain group were erroneously identified. Without revisional work, the museum collection may well be a source of error. Specimens come in from many workers, and it is impossible to check up the identifications as they are put away. Even specimens labeled "type" can not always be trusted, as has been shown by a National Museum specialist in a paper just published. Then again, in the absence of adequate monographs, entomologists give up the idea of determining their species, and at the same time the idea of studying them. Consequently, even when they receive names for their specimens, they often do not know the species, and will not recognize them again. The practice of wholesale determination of specimens has faults analogous to those of indiscriminate charity.

On the other hand, if, with enlarged resources, we went to work cooperatively to monograph our fauna, we could enable serious students to work up their own materials. They would, of course, find difficulties, and would be entitled to assistance from the museum or bureau, after they had tried to help themselves. This assistance would be cheerfully given, with the knowledge that it would promote study, instead of preventing it. Identifications, based on revisional work and not on the labeling of specimens, derived from various sources, in the collection, would be far easier and more accurate. Time would be saved for all concerned, except those who have been in the habit of requiring a specialist to do their work for them. Broadly, then, we need more constructive imagination.

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[1] Clarence E. Mickel, "The Future of Taxonomy," SCIENCE, 71: 436, April 25, 1930.

INACTIVITY OF CHICORY[1]

RESULTS previously reported[2] indicated absence of stimulative effect of infusions of chicory on isolated intestinal segments. Later repeated observations of no gastro-intestinal response in intact rabbits, dogs and guinea-pigs to massive doses of such infusions seem to indicate further that chicory, in the form used as a beverage ingredient, probably has no laxative effect.

Such a quantity of the root is popularly consumed that it was thought worth while to investigate other possible actions. A careful series of urine secretion determinations in man (myself) and guinea-pigs have yielded, without exception, quantitatively negative results. Intravenous or stomach tube administration of as much as 60 cc of a 20 per cent. infusion produced no observable effect or discomfort in intact guinea-pigs. Substitution of an alcoholic extract (evaporated to alcohol-free) for the infusion made no difference in the complete negativity of the findings.

The only indication of a possible drug action encountered was a tetanus-like hyperexcitability of frogs which had received the relatively tremendous dose of 2 cc of a 20 per cent. evaporated tincture (roughly equivalent to 5,600 cups of an average coffee-chicory blend in man). Administration of virtually unlimited dosage failed to elicit any comparable effect in mammals. It seems quite probable that chicory has no particular pharmacological significance as used in coffee mixtures.

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CAN A CATFISH COUNT?

A BULLHEAD catfish (*Ameiurus nebulosus*) which had been maintained since babyhood in a twenty-three-gallon all-glass tank of still water with several others of its kind was between three and four years old when it evolved a method of entertaining itself that may be called unique considering the general absence of a spirit of play in this group of fishes.

A single spray of Canadian water-weed (*Anacharis*) trailed about a foot from the main plant, touching the glass at the rear of the tank (*i.e.*, the side

[1] From the Departments of Physiology and Pharmacology, Marquette University School of Medicine, Milwaukee.

[2] C. Reynolds, *Proc. Soc. Exp. Biol. and Med.*, 25: 696, 1928.