President Frank B. Jewett, of the National Academy of Sciences, telegraphed President Truman that the council of the academy at its meeting on November 15 in Philadelphia in connection with the joint meeting of the academy and the American Philosophical Society on "Atomic Energy and its Implications" expressed unanimous approval of the published text of the Declaration on Atomic Energy issued that day (November 15) jointly by President Truman and Prime Ministers Attlee of Great Britain and Mackenzie King of Canada.

The members of the American Philosophical Society in executive session on November 17, at the time of the joint meeting of the society and the National Academy of Sciences, adopted the following resolution to be presented to the President of the United States:

WHEREAS, the growth of knowledge is an important source of the nation's strength, and whereas, the greatest freedom for study and discussion is essential to the effective growth of knowledge and of the national welfare, it is *Resolved* that no legislation should interfere in any manner with basic scientific research and its publication in any field, and in particular with relation to atomic energy.

It was the general agreement of all those present at the meeting that it was one of the most important and successful meetings ever held by either society.

L. P. EISENHART

HALL OF THE AMERICAN PHILOSOPHICAL SOCIETY

DISCUSSION

THE SMALL MOUNDS OF THE GULF COASTAL PLAIN

IN various parts of the United States and in other parts of the world, areas of abundant small mounds have been frequently discovered and reported.[1,2,3] Of these, the mounds of the Gulf Coastal Plain are among the best known. During 1942 and 1943, the writer made almost daily airplane flights over various parts of the United States, but especially in the coastal areas of Texas and Louisiana, which afforded an opportunity to observe the excellently developed small mounds of the Gulf Coast. A further study was made on the ground where aerial observation showed these mounds to be well developed. Inasmuch as the writer has arrived at conclusions concerning their origin which differ from any theory that to his knowledge has been previously proposed, a discussion of these mounds is briefly presented here.

The mounds are present by the hundreds of thousands in a broad belt along that part of the Gulf Coastal Plain extending from near the Corpus Christi region of Texas eastward to the vicinity of Lafayette, Louisiana, where the mound-containing sediments are abruptly truncated by Mississippi alluvium. They are best developed and are nearly everywhere present in southeast Texas and southwest Louisiana on level or almost-level ground, where they form the so-called "pimple prairies." They are most commonly present and they are of most perfect form immediately to the landward of coastal lagoons, whereas inland the mounds are generally more scattered and less well-preserved. Mounds, of the type referred to here, are completely absent from the barrier beaches and related beach deposits and, also, are absent from the extensive area covered by wind-blown sand in the region between Corpus Christi and the Rio Grande River. In fact, the mounds are wholly confined to areas which appear to be brackish-swamp-deposited facies of the two extensive Quaternary formations, the Beaumont and the Lissie.

The mounds are symmetrical in form and rather uniform in size and shape. They are circular in ground plan and in vertical section they have the shape of a low flattened dome. Although they may vary in diameter from ten to one hundred feet, and in height from one to five feet, they average about thirty to fifty feet across and about two or three feet in height. Where the hillocks are well developed, they are scattered at intervals of about one hundred feet and occupy from ten to twenty-five per cent. of the land.

The mounds consist of dark gray loamy sand which at a depth ranging from two to four feet grades into a loamy clay similar to that of the inter-mound areas. No gravel is present either in the mounds or in the areas between them. No fossils or artifacts are found in these hillocks; however, inasmuch as layers of calcareous concretion are found in the subsoil, it is likely that fossils have been leached from the mounds. They are nearly always topped with a thick growth of tall dark-green weeds which makes them easy to see from the air. The mounds have no elongate axes and they do not have any other apparent orientation but rather are scattered at random. However, collectively, the mounds tend to be distributed in irregular belts parallel to the coast line. Commonly associated with the mounds are circular patches of sand which are commonly referred to locally as "sinks" or "slick spots." No vegetation grows upon these sandy

[1] A. C. Veatch, U. S. Geological Survey Prof. Paper 46, pp. 55–59, 1906.

[2] W. A. Dalquest and J. G. Scheffer, *Jour. Geol.*, 50: 1, 68–84, 1942.

[3] J. C. Branner, SCIENCE, n.s., 21, 514–516, 1905.

spots and, consequently, they appear as prominent white scars from the air.

Some of the previously suggested modes of origin for these and other similar mounds are:

I. Human Origin—constructed by Indians for tepee sites.[1]

II. Erosional Origin—formed by the carving action of wind or water.[1]

III. Wind Depositional Origin—formed of wind-blown sand trapped by clumps of vegetation.[1]

IV. Artesian Spring Origin—deposited at the mouth of an artesian spring.[4]

V. Animal Origin—formed by burrowing animals,[2] such as gophers, prairie dogs or ground squirrels, or by insects such as hill-building ants.[1]

Of these suggested theories, the last one is probably the most generally accepted and, consequently, it is noteworthy that neither present-day nor fossil burrows were found by the writer and that ant hills were not frequently encountered. Moreover, one would expect the distribution of hillocks formed by animals to be independent of geological formations. The fact that they are definitely confined to areas of Quaternary brackish water sediments indicates that such deposits are directly associated with the origin of the mounds. Furthermore, although the writer has flown over and traveled over many parts of the Great Plain where one would expect mounds formed by burrowing animals to be best developed, he has not observed any mounds even remotely resembling those of the Gulf Coastal Plain.

It is the writer's belief that the mounds are water-deposited features originating as sandy islets along the margin of marsh-grass-lined lagoonal swamps. Aerial observations of many inaccessible areas, such as along the shore of Sabine Lake, Calcasieu Lake and on the landward side of the lagoon in the vicinity of Galveston, shows these islets along the shore in various stages of formation and grading into mounds preserved on land. During the process of filling-in of the lagoons by sedimentation the marsh grass of the shore line encroaches, not as an even stand of marsh grass, but rather by advancing into the lagoon in circular clumps as spots offshore become shallow enough to permit the grass to gain a foothold. After a few plants have gained such a foothold, they tend to trap sand and, in this manner, a submerged or slightly emerged islet surmounted by a thick clump of grass is constructed. When preserved by shoreline emergence, these small islets eventually form the small mounds that dot the coastal plain. In some areas islet-lined lagoons grade into level swamp land which farther inland becomes a so-called pimple prairie. In such cases, it is quite probable that the islets are preserved as sand lenses when the inter-mound areas become completely filled with silty clay. However, when the ground dries the mounds may again appear in relief as a result of the greater compaction of the clay between the mounds, compared to that of the sand composing them.

[4] T. L. Bailey, *Univ. of Texas Bull.*, No. 2333, 22–30, September 1, 1923.

ROBERT S. DIETZ

AN UNUSUAL ACTION OF AMPHETAMINE

WHILE screening compounds for amphetamine-like actions I observed the following interesting phenomenon: When fireflies were moistened on the abdomen with 0.5 per cent. to 2 per cent. amphetamine sulfate solution the normally intermittent glow became continuous for hours at a time. The more concentrated amphetamine solutions appeared to result in longer action.

Mr. G. R. Fessenden of this laboratory suggested the morning-glory beetle Metriona bicolor as a substitute for the firefly. This insect periodically assumes a gold color, which it loses when disturbed. Application of amphetamine solution to the beetles resulted in their developing a gold color which persisted for days and was not discharged by disturbing. We also applied amphetamine to ctenophor jelly-fish without effect on their luminescent behavior.

We are now attempting to ascertain whether this action is specific for amphetamine and whether it is on a luminescent enzyme system or on a muscular shutter system. The medico-legal uses of this test are also being explored.

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AN APPEAL FOR AID TO THE PHILIPPINE BUREAU OF FISHERIES

I HAVE been asked to aid in rebuilding the working library of the Philippine Bureau of Fisheries. The Japanese wantonly destroyed the great scientific library of the Bureau of Science and all scientific collections. In addition, the members of the staff of the Bureau of Fisheries lost all their possessions, including their professional libraries.

The resumption of work at the Bureau of Fisheries is under very great handicaps, not the least of which is the entire absence of all printed matter on fish and fisheries.

I therefore ask scientific men all over the country to contribute anything they can spare on fish, fisheries, fish culture and the like. Send material to me at the address given below. I shall undertake to see that it gets to the Bureau of Fisheries at Manila.

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