not to be terminated merely as an incident in a change of administrative policy. This view was concurred in by Dr. Vaughan, at the time of his succession to the directorship of the Scripps Institution, and the *Peromyscus* studies were continued for some years after the institution had adopted an otherwise exclusively oceanographic program. But such an anomalous situation could not be expected to continue indefinitely. As an emergency measure, the Carnegie Institution of Washington came to the rescue in 1927, in order that results already obtained or material already at hand might be utilized to the fullest. The liberal contribution then made by the Carnegie Institution permitted not only of full utilization of previous data and material, but made possible considerable further progress with the work. The funds which were contributed for the purpose, however, are now exhausted.

Despite past and recent efforts by the administration of the University of California, it has proved to be impracticable to transfer this program of research to Berkeley, and to have it conducted under the auspices of any university department there. Such a time-consuming research program is naturally incompatible with one's carrying an even moderate teaching schedule, particularly if one's teaching experience has been limited.

For these reasons, the *Peromyscus* program, at least so far as the present writer is concerned, has been brought to a close. In its place, studies will be undertaken of the ecology and possibly the genetics of certain species of fishes, both fresh water and marine. Certain of these studies are already in progress. The remaining stock of *Peromyscus,* comprising seven subspecies, has been sent to Dr. Lee R. Dice, of the Zoological Museum, University of Michigan.

That university is the only one, so far as I know, in which experimental breeding operations are being conducted in connection with its museum of zoology. It is to be expected that other universities will, in time, recognize the wisdom of such a policy.

It has seemed desirable to issue the foregoing statement, owing to misunderstandings which have prevailed for some years regarding the status of the investigations in question and the writer's connection with the Scripps Institution. I will conclude by saying that reprints of papers, including those on genetic subjects, will still be welcomed by the writer at the same address.

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PHYSICOCHEMICAL PHENOMENA IN THE ANTARCTIC

THE paper of Rear Admiral Richard E. Byrd entitled "The Conquest of Antarctica by Air" published in the August number of the *National Geographic Magazine* brings out several facts which are not only of general scientific interest but are also of particular importance to those who have to deal with low temperature conditions, *e.g.,* aviation and pilot balloon investigations.

The influence of intense cold on chemical reaction appeared when he was examining a crevasse while the temperature was *only* 50 degrees below zero (presumably F.). Byrd writes: "We could not use hand flashlights, because the cold stopped the chemical action of the dry batteries. We provided light by linking a portable gasoline engine generator to a locomotive-type searchlight pointed down the dark fissure." When the thermometer was 71 degrees below, they had to warm the candles used under the meteorological balloons before they could be lighted.

The ready formation of finely dispersed (presumably colloidal) ice is shown by the following: "It was amazing to see fogs at these temperatures. The air holds a very small amount of moisture at 50 below, but when the wind stirs the warmer and the colder air condensation of this minute amount of moisture occurs and a real fog is evolved. . . . Even a book lying against a cold wall steamed like a teakettle when opened in a slightly warmer atmosphere. When a man stood inside the entrance to one of the house tunnels, the vapor formed by his breathing was so heavy the house appeared to be on fire." Water in the form of colloidal ice seems to be the cause of so great an effect from so small a quantity.

Some peculiar physical effects may be noted. At 64 below, "It was so cold that when a man stood outside the tunnel he could hear his breath freeze. The condensation caused a faint swishing sound like snow blown across the ice surface by a strong wind." Kerosene froze solid. "One mid-July day the mercury touched 71 below zero. That caused the barrier snow to contract sharply. All about us we could hear the ice snapping and cracking. Then, as large cracks occurred, the bay ice began booming like distant guns. The guy wires on the antenna posts became as taut as harp strings and the wind played odd humming tunes on them."

In order to avoid dangers following failure of soldered cans, which Dr. B. T. Brooks pointed out as due to formation of gray tin ("tin disease") at low temperatures, the supplies (oil, gasoline, etc.) were packed in copper cans made with silver solder.

JEROME ALEXANDER

CIRCULAR SHADOWS FROM VORTICES

YESTERDAY while I was sitting in the bright sunshine on a rock in the middle of the Croton River my