different layers, and in partly dried material one is often able to strip off several layers. Mueller's statement that the cuticular layers of Ascaris are "fairly similar" leads me to hope that his analysis may be regarded as in a general way confirming my own.

It is interesting to note that Ward states in his chapter on Parasitic Worms (Ward and Whipple, "Fresh Water Biology") in discussing the cuticula of nematodes that "it has been correctly designated as cornein by Reichard." Since no reference to my incorrect statement is made in this text book it may be inferred that Ward also was misled by the subtitles.

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AN UNUSUAL ATMOSPHERIC PHENOMENON

ON the morning of December 14 a rather unusual atmospheric phenomenon, the so-called circumzenithal arc, was observed at Brunswick, Me. It had the form of a bright rainbow-like arc about 90 degrees in extent with its center of curvature approximately at the zenith. The colors were much more clearly defined than in the ordinary rainbow, the red being at the outer edge of the arc and the violet at the inner. The arc extended in azimuth roughly from west to south. When the phenomenon first appeared the sun was at an altitude of some 20 degrees, and the edge of the arc at about 70 degrees. The arc remained visible for about half an hour. The weather at the time was clearing, and low lying fog clouds moving from north to south partially obscured the sun although blue sky was visible near the zenith. The surface temperature was slightly above freezing.

The phenomenon just described while rare is not unknown. It may be explained by the refraction of the sun's rays in passing through columnar snow crystals with tabular caps, the crystals acting as right prisms. A detailed explanation of the circumzenithal arc is given by Humphreys in "Physics of the Air," p. 511. The striking feature of this particular occurrence of it was its duration. As generally observed it has lasted only about five minutes, while in this instance it was distinctly visible for a full half hour.

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PSYCHO-ENDOCRINOLOGY

NEW words are sometimes as important events in history of science as new discoveries. For the word means the crystallization of a new concept. And the crystallization of a new concept means the attainment of one of the ideals of science: the correlation of the relationships of hitherto unrelated observations and findings. Such new concepts are valuable not only for classification of the activities of the worker in science in the past, but also for orientation towards the problems and methods of the future.

Accumulating information during the past fifty years has pointed to an importance of the endocrine glands for the problems of the science of psychology. Whether that science be looked upon as the study and control of consciousness or whether it be looked upon as the study and control of the behavior of an organism as a whole reacting to an environment makes no difference. From either viewpoint, evidence has accumulated that the endocrine glands, modifying conditions in the organism in general and in the nervous system in particular, are of the utmost significance for the data of psychology.

It is time I think an attempt was made to collect under the rubric of a single name the results of various individual investigations in the fields of psychology, biochemistry and medicine, where they will be collectively available to the research worker. I propose the word "psycho-endocrinology" as the name for that branch of science which deals with the relation of the endocrine glands to mental activities and processes, as well as to behavior, including the individual characteristics in health and disease, summarized in the term personality.

LOUIS BERMAN

QUOTATIONS

STATE ACADEMIES OF SCIENCE

THE American Association for the Advancement of Science has now in affiliation with it the academies of science of twenty-two states. As an organization this association and its affiliated organizations are not much given to talking of themselves. The report of the activities and progress of the state academies as told in an address of the president of the New Hampshire Academy and published in SCIENCE would indicate that they have a position of importance in creating an interest in scientific achievements and disseminating valuable scientific information. The name of the association might suggest an exclusive gathering of college professors and scientists. While it has in its own membership and that of the affiliated organizations men of learning and attainments in scientific research at the same time it has members who may never have spent an hour in a scientific laboratory, whose part in the organization is that of individuals of the ever-increasing number in this country who are interested in science and who find in one or more of its branches, as the report says, an avocation or a hobby distinct from their ordinary life routine.

The first of the associated organizations dates back to 1853, when the New Orleans Academy of Science, now known as the Louisiana Academy, was formed. It was not until the period from 1866 to 1870 that the number of academies had reached four. This number had increased to twenty by 1924, when the Alabama Academy was formed. The youngest of the affiliated organizations is the South Carolina Academy, which became a member of the association in October of this year. The credit of being the pioneer in this field should perhaps belong to the Maryland Academy of Science, originally formed in 1797.

Besides the associated organizations in the eastern and southern states there are a Pacific division and a southwestern division of the American Association. It is an evidence of the national interest in scientific studies that there are academies of science in all the Pacific Coast states, with which are affiliated other scientific organizations in the Rocky Mountain states, British Columbia, Alaska and the Hawaiian and Philippine Islands, and that in the southwest there is an affiliation of similar organizations covering the states of Arizona, New Mexico, Colorado, the two bordering Mexican states of Sonora and Chihuahua and the state of Texas west of the Pecos.

The number of members enrolled in the academies varies widely; the New Orleans Academy has about fifty members, while the Maryland and Indiana academies have about 800. There is apparently no hard and fast rule regarding the qualifications for members. The New Orleans society is limited to research workers, which may account for its small membership. In fourteen of the academies any one "interested in science," "interested in the progress of science" or "interested in scientific work" may become an active member. Georgia requires five years of recognized scientific work or some notable contribution to science. New Hampshire asks for proficiency "in some branch of science," North Carolina wants active interest in the promotion of science and Maryland stands out in requiring, besides an interest in science, "a desire for self-improvement and a desire to help others." Most of the state academies apparently interpret the term science to cover "most of the field of classified knowledge and orderly thinking."

The work which the academies have undertaken or accomplished varied largely with the demands which the different states have made upon the organizations. In a general way all have endeavored to arouse interest in scientific matters, publish papers primarily for non-scientific readers, present non-technical lectures, encourage scientific research among graduate students and foster higher standards of scientific work. Some of the academies have sought to make collections of scientific literature that might not otherwise be accessible to students. The New Hampshire Academy financed from its own funds the publication of Professor J. W. Goldthwait's valuable "Handbook of the Geology of New Hampshire." The Maryland Academy has its own building, which it opens to the use of the scientist. Eight of the state academies have libraries of their own; the library of Kansas contains 4,000 volumes on research, Indiana has 6,000 volumes and Wisconsin offers the student several thousand books on modern attainments besides 700 exchanges of publications from all parts of the world. The inference which the president of the New Hampshire Academy draws from his study of scientific advance in the last few years is that "the state academies have been and are very valuable, not only to the members but also to the progress of science and education in general and consequently to the public at large."—*New York Sun.*

REPORTS

RESOLUTIONS ADOPTED BY THE INTERNATIONAL GEODETIC AND GEOPHYSICAL UNION[1]

I. IN view of the decision unanimously adopted, June 29, 1926, by the International Research Council at its general meeting at Brussels, according to which the contribution to be paid by each of the adhering countries is to be henceforth calculated in gold francs, the sum originally adopted as the unit of contribution, in each union, to be at the same time reduced in a proportion included between a third and a fifth of the present figure;

Considering that, for the International Geodetic and Geophysical Union, the unit of contribution has been until that time fixed at 2,600 French paper francs, which, in the beginning of 1919, were equivalent to about 1,800 gold francs:

The General Assembly unanimously proposes to replace provisionally, beginning with 1928, this amount by a round sum of 900 gold francs and invites its bureau to bring this resolution to the attention of the International Research Council and of the national committees of the various associated countries.

II. In view of the desire expressed by the American National Committee of Geodesy and Geophysics to have, in the future, the International Geodetic and Geophysical Union and the International Astronomical Union hold their meetings the same year at an interval of only a few weeks and in cities not too

[1] Resolutions adopted by the third general assembly of the International Geodetic and Geophysical Union held at Prague, Czecho-Slovakia, September 3 to 10, 1927. Translated from the French by H. D. Harridan, Department of Terrestrial Magnetism of the Carnegie Institution of Washington.