their host. With these facts in mind M. Roubaud experimented upon *Cordylobia*. He found that eggs placed directly upon the skin do not result in the infection of the animals. In the same way his experiments indicated that where eggs were swallowed by animals no infection followed. His experiments with a third method proved successful. Fifteen small larvæ were taken immediately upon the hatching of the eggs and were placed upon a light layer of sand in a large vessel. A guinea pig was shut up in the vessel for twenty hours and then taken out and placed in a wire cage. The result was that three days afterwards six tumors were found on the under side of the body, upon the muzzle and near the anus, each one containing a rapidly developing larva. His experiments indicate, therefore, that infestation is accomplished exclusively by the direct and active penetration of young larvæ hatched elsewhere. He followed day by day the evolution of the larva and describes the successive stages, which occupy only a week. He believes that Europeans are only accidental hosts of this parasite, but that with the natives who sleep on the ground the infection is naturally much more easy. The investigations were made in the laboratory at Bamako.

Of equal interest are the observations of Herbert von Pelser-Berensberg ("Societas entomologica," Vol. 26, p. 34, July 29, 1911) on *Cordylobia rodhaini* Gedoelst. It had been supposed that uncleanly habits led to infection, but it was found that those persons who bathed most frequently were most subject to infection and the inference was that the eggs were laid upon the exposed body. Keeping eggs under a watch-glass bound to his arm, von Pelser-Berensberg found that the newly hatched larvæ, while they gnawed the skin, did not succeed in penetrating. Later he solved the problem by direct observation. While bathing he noticed that certain flies were attracted to the clothing which he had spread out on bushes, in the sun, to dry off the perspiration. He found that these flies were *Cordylobia* and that they had glued about twenty eggs to his underclothing. As an experiment he continued to wear the clothing. Examination at the end of the first day showed that the eggs were intact, but on the second day they had hatched. Search with a lens upon the skin revealed some minute red spots and beneath these were the young larvæ, about .5 mm. long.

FREDERICK KNAB

THE NATIONAL ACADEMY OF SCIENCES

THE scientific program of the National Academy of Sciences, which met at Washington on April 16, 17 and 18, was as follows:

George E. Hale: "The New Tower Telescope of the Mount Wilson Solar Observatory."

W. W. Campbell: "Radial Velocities of 213 Brighter Class A Stars." "Radial Velocities of 190 Brighter Class F Stars." "Some Characteristics of Stellar Motions."

W. J. Humphreys (introduced by Cleveland Abbe): "Holes in the Air."

R. A. Harper: "The Organization of the Cell Colony in *Pediastrum*." (By title.)

D. H. Campbell: "On the Morphology and Systematic Position of *Calycularia radiculosa* (Sande Lac) Stephens." (By title.)

William Trelease: "A Revision of *Phoradendron*."

H. F. Osborn: "Biological Foundation of Bergson's 'Creative Evolution.'" (By title.)

E. S. Morse: "Biographical Memoir of C. O. Whitman." (By title.)

G. L. Goodale: "Biographical Memoir of Alexander Agassiz." (By title.)

By invitation of the Council—

Harvey Cushing: "Some Observations on the Functions of the Pituitary Body."

Jacques Loeb: "The Activation of the Animal Egg from the Physico-chemical Standpoint." (By title.)

J. A. Holmes: "The National Phases of the Mining Industry."

C. G. Abbot: "The Solar Radiation."

ANNUAL MEETING OF THE AMERICAN FEDERATION OF TEACHERS OF THE MATHEMATICAL AND THE NATURAL SCIENCES

THE American Federation of Teachers of the Mathematical and the Natural Sciences held its annual meeting at the New Willard Hotel in Washington on December 27.

The associations composing the federation reported concerning their activities during the past year, and the reports of committees were considered as follows:

Action on the recommendations in the report of the committee on college entrance requirements was postponed for one year, with the understanding that the various associations were to take action on it in the meantime, and were to report their decisions to the federation.

The national geometry committee report was approved as a report of progress. The chairman, Dr. Slaught, reported that a preliminary report would soon be distributed to all members of the federation who were engaged in mathematics teaching, as well as to such other teachers as were interested. An edition of 5,000 copies will be published, the expense being borne by the National Educational Association.

The amendments reorganizing the council by limiting the representation of each association to one member were adopted, as follows:

Section 5. Each association shall have one delegate on the federation council, this delegate to cast one vote for every fifty members of the association he represents, but to have at least one vote. The delegate may be chosen in any way decided upon by his association, shall hold office for three years, or until the appointment of his successor, and shall be eligible for reelection. In case of a vacancy by death or resignation, the association in question must at once appoint a successor.

Section 7. The duty of a delegate shall be to keep the secretary of the federation informed as to the activities of his association, and to represent the interests of his association at every meeting of the council. If for any reason he can not attend a meeting, he shall be responsible for being represented by a properly accredited proxy.

The associations have been asked to appoint these representatives at once, and it is hoped that the new council will soon be in full working order.

The treasurer reported as follows:

EXPENDITURES

Stationery and stamps	$ 8.50
Printing and mailing	70.52
National Geometry Committee	100.00
	$179.02
Balance	85.78
	$264.80

RECEIPTS

Balance from 1910	$ 85.60
Dues from 12 associations	179.20
	$264.80

One association, the Association of Biology Teachers of New York, has resigned from the federation, and two associations with an approximate membership of 150 have not yet paid their dues for the year.

A committee of teachers of physics, J. A. Randall, Pratt Institute, Brooklyn, chairman; W. R. Pyle, Morris High School, New York City; W. A. Hedrick, McKinley Manual Training School, Washingon, D. C.; G. A. Works, Madison, Wisconsin; P. B. Woodworth, Lewis Institute, Chicago, has been appointed "to coordinate new apparatus and new teaching content with the present secondary school physics course."

Mr. Randall is chairman of a similar committee of the New York State Science Teachers' Association, and committees to cooperate in this work have already been appointed by the Physics Club of New York and the New Jersey State Science Teachers' Association. It is hoped that the National Educational Association will decide, at next summer's meeting, to be a partner in this undertaking, as it has been in the work of the National Geometry Committee.

The plan of work for the committee is to have each member act as chairman of a local committee, which shall investigate conditions in its territory, collecting data as to new apparatus and improvements in courses to be submitted to the general committee, and giving to the instrument makers plans for whatever apparatus seems worth while. The general committee will probably form a new definition of the "physics unit" to correspond with what they find to be the most improved usage in the subject, and will perfect machinery by which every physics teacher in the country can secure the most improved forms of equipment.

On Thursday morning, at a joint session with Section L of the American Association for the Advancement of Science, the members of the council listened to addresses by Professor C. W. Moore, of Harvard; Professor A. L. Jones, of Columbia, and Dean J. R. Angell, of Chicago University, on the new systems of admission to these colleges.

Eugene R. Smith,
Secretary
Polytechnic Preparatory School,
Brooklyn