

mal excitation of a very few electrons into states of motion which enable them to move freely through the crystal. In contrast to metals, the electrical properties of semi-conductors are classical. E. Tamm (Moscow) gave a paper on the peculiar "surface-bound" electronic states in non-metallic crystals and another paper on the calculation of the work function for metals; in this he showed that the work depends solely on the polarization of the metal (though the notion of the corresponding "image-force" is not valid). Finally J. E. Mayer (Baltimore-Göttingen) presented a paper on new developments of Born's theory of ionic forces in crystals, based upon the wave-mechanical conception of interatomic forces and on electrical polarization.

In connection with the above symposium a discussion was held on Dirac's electrodynamic theory to which Foek (Leningrad), Podolsky (Pasadena-Khar'kov) and Shubin (Sverdlovsk) make interesting contributions. Nuclear phenomena, especially the analysis of atomic structure in terms of protons and neutrons, and the repercussion of those phenomena upon the law of conservation of energy, also came in for a fair amount of discussion. Fowler and Dirac (Cambridge), Tamm, Frenkel and others joined in this discussion. Its general tone differed from that of the similar discussion which took place at the British Association meeting (York) in that the unexplained behavior of the energy distribution in the beta-ray emission of radioactive bodies did not appear to shake the confidence of the speakers in the utility of the postulate of the conservation of energy when applied to subatomic phenomena.

VICTOR COFMAN

#### ANNUAL MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION

THE fiftieth stated meeting of the American Ornithologists' Union was held in Quebec, Canada, from Oct. 17 to 20. The meeting was largely attended and representatives were present from 4 provinces, 16 states and the District of Columbia. The headquarters were at the Chateau Frontenac, where the business sessions were held and the exhibit of bird paintings and photographs was installed.

Officers for 1933 were elected as follows: *President*, J. H. Fleming, Toronto; *Vice-presidents*, A. C. Bent, Taunton, Massachusetts, and Herbert Friedmann, Washington, D. C.; *Secretary*, T. S. Palmer, Washington, D. C.; *Treasurer*, W. L. McAtee, Washington, D. C.; *Additional Members of the Council*, A. A. Allen, J. P. Chapin, Ruthven Deane, H. C. Oberholser, J. L. Peters, T. S. Roberts and P. A. Taverner.

The election of fellows and members included 1 fellow, Hoyes Lloyd, of Ottawa, 8 corresponding fellows,

5 members, and 119 associates. The new corresponding fellows were: D. Francisco Chigi, of Rome; Titus Csorgey, of Budapest; Charles DuPond, of Brussels; Oskar Heinroth, of Berlin; Koloman Lambrecht, of Budapest; Robert Poncy, of Geneva; Bernhard Rensch, of Berlin; B. Stegmann, of Leningrad.

The members elected were: Thos. D. Burleigh, of Asheville, N. C.; Mrs. M. E. Davidson, of San Francisco, Calif.; Laurence M. Huey, of San Diego, Calif.; S. C. Kendeigh, of Cleveland, Ohio; Jesse M. Shaver, of Nashville, Tennessee.

On Thursday evening the members visited Cap Rouge, where they had an opportunity of inspecting the Langelier collection of birds. On Friday a trip was made to Cap Tourmente, about 40 miles below Quebec, to observe the flock of Greater Snow Geese which stop at this point for some weeks on their southward migration. About nine or ten thousand birds were observed at close range. On the return trip stops were made at Ste. Anne de Beaupre and at the Falls of Montmorency.

#### THE FINANCES OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

A COOPERATIVE plan whereby the Massachusetts Institute of Technology has undertaken to lay up a reserve against a possible deficit in case the year's income is reduced below present expectations, has been announced by President Karl T. Compton.

President Compton stated that the institute's budget is now balanced, but that this action has been taken to create a reserve which may be drawn upon in case income from endowments should fall appreciably below the figure indicated by the present dividend rates.

This salary reserve fund is to be set up from two sources. The first source is the "Professors' Fund" which has been accumulating for more than a year from the 50 per cent. contributions of income earned by members of the staff for professional services rendered to parties other than the institute during the terms of the institute session. The professors themselves have voted that this fund shall be used to set up a plan for leaves of absence to enable members of the staff to increase their professional contacts and opportunities for research. They have, however, now voted to put such portion of this fund as may be required at the disposal of the institute for meeting its operating expenses in case these should exceed the income for the year.

The second source of funds consists of a deposit of 10 per cent. of salaries or wages, after deducting an exemption of \$500, to be accumulated between December 1, 1932, and July 1, 1933, with the understanding that any balance of this fund which may not be

needed in meeting the operating expenses of the institute shall, on July 1, be returned *pro rata* to those who have contributed to it.

President Compton emphasized that this is a precautionary measure to prepare for contingencies which are not now in sight and which it is hoped will not arise.

The definition of "need" for this fund is understood to be the running of a deficit which is larger than the average deficit of the past ten years in which deficits have been incurred. In other words, the staff are not called upon to meet a "normal" deficit but only a deficit which runs beyond this. The fund will

not have to be used at all unless income from investments falls significantly below the present estimates.

There has been no reduction in salaries at the institute and this action is not considered as such a reduction. The corporation has made every effort to maintain salaries on the present basis, especially in view of the fact that the outside income of the staff, through various professional contacts, comes from a type of work which is very greatly reduced during times of business depression. The staff as a whole has already suffered a considerable reduction in income from such work, even though the institute salaries have remained unchanged.

## SCIENTIFIC NOTES AND NEWS

DR. WILLIS RODNEY WHITNEY, retiring director of the General Electric Research Laboratory; Dr. William David Coolidge, who succeeds him, and Dr. Irving Langmuir, associate director, were tendered a luncheon on November 23 by representatives of the professional, industrial and commercial interests of Schenectady. Dr. Frank Parker Day, president of Union College, made the principal address. Dr. Langmuir was the guest of honor at a dinner given by the Chemists' Club on November 29, just prior to his sailing for Sweden to receive at Stockholm the Nobel prize award in chemistry.

DR. W. J. V. OSTERHOUT, of the Rockefeller Institute for Medical Research, has been elected a member of the Academy of Sciences at Halle.

DR. FRANK B. MALLORY, professor of pathology, emeritus, at the Harvard Medical School, has been elected a corresponding member of the Royal Medical Society of Budapest.

At a recent meeting of the Berlin Society for Anthropology and Ethnology there were elected as corresponding members Dr. Charles B. Davenport, of the Carnegie Institution of Washington; Professor Fabio Frassetto, of Bologna, and Dr. Lindblom, director of the Ethnographic Section of the Reichsmuseums, of Stockholm.

THE Sedgwick Medal of the American Public Health Association has been awarded to Dr. William H. Park, director of the laboratory of the New York City Health Department, for distinguished service to public health.

THE Royal Aeronautical Society has awarded the Taylor Gold Medal to Dr. G. V. Lachmann for his paper entitled "Control beyond the Stall," and the Busk Memorial Prize to H. Constant for his paper entitled "Aircraft Vibration."

THE Chemical Society of Washington elected the following officers at a meeting held on November 10: *President*, Paul E. Howe; *Secretary*, James H. Hibben; *Treasurer*, Orville E. May; *Councilors*, H. T. Herrick, H. G. Knight, E. W. Washburn, E. Wiechers, R. E. Gibson and M. X. Sullivan; *Managers*, J. A. Ambler, N. Bekkedahl, J. F. Couch, R. E. Gilchrist, A. T. McPherson and A. R. Merz.

DR. IAN M. THOMPSON has been appointed to succeed Professor Herbert M. Evans as chairman of the department of anatomy of the University of California. Dr. Evans is spending the year in New York City as a guest of the Rockefeller Institute for Medical Research.

CREIGHTON UNIVERSITY SCHOOL OF MEDICINE has announced the appointment of Dr. Eugene F. Noonan and Leo P. Clements as assistant professors in the department of micro-anatomy and Dr. Zeno N. Korth as professor of pathology.

DR. SAMUEL M. MAYFIELD has been called from Berea College to Intermountain College, Helena, Montana, as professor of geology and forestry.

DR. E. B. POULTON, for forty years Hope professor of zoology at the University of Oxford, has presented his resignation, to take effect on January 1.

E. E. AUSTEN, keeper of the department of entomology in the British Museum of Natural History, retired on October 19, having reached the age limit of sixty-five years.

HAROLD SIDEBOTHAM, who has been acting director of the Santa Barbara Museum of Natural History since the death of Ralph Hoffman in July, has been made director.

PROFESSOR FLOYD R. WATSON, of the University of Illinois, has been named chairman of a committee of