SCIENCE

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THE CALIFORNIA INSTITUTE OF TECHNOLOGY

ROBERT A. MILLIKAN, professor of physics at the University of Chicago, has been appointed director of the Norman Bridge Laboratory of Physics at the California Institute of Technology and chairman of the executive council of the institute. Dr. Millikan has for a number of years spent the winter term at the institute, but he will now give his whole time to it, beginning in October, when the new physical laboratory will be ready for occupancy.

Dr. Millikan will devote himself mainly to the development at the institute of a large and effective research laboratory of physics. The trustees, though prepared to appoint him president, were appreciative of his desire not to be burdened with the administrative duties which are usually attached to that office, and have created a new administrative board, to be called the executive council, which will combine the usual functions of the president and the executive committee of the board of trustees. This executive council will consist of six members, three from the board of trustees and three from the faculty, as follows: Robert A. Millikan, chairman; from the trustees, Arthur H. Fleming, president of the board; Henry M. Robinson, first vice-president of the board, president of the First National Bank of Los Angeles; and George E. Hale, director of the Mt. Wilson Observatory; from the faculty, in addition to Dr. Millikan, Arthur A. Noyes, director of the Gates Chemical Laboratory, and Edward C. Barrett, secretary of the institute.

Liberal provision, made possible by large gifts to the institute, has been made for the physical laboratory, for which an annual appropriation of $95,000 has been guaranteed. These funds will enable a large staff of able investigators and teachers and an unusually

complete equipment to be secured. In addition to this provision for annual support, the institute has recently received from Dr. Norman Bridge the promise of $200,000 for an extension of the physics laboratory and of $50,000 for its library.

It is also announced that the Southern California Edison Company will immediately erect at a cost of $75,000 on the campus of the California institute a high-tension laboratory where an extensive investigation on the transmission of power at high voltages will be made by the staffs of the company and of the physics and electrical engineering departments of the institute under the direction of Profesor R. A. Millikan and R. W. Sorensen, and where other scientific researches will be carried on by the professors of the institute in cooperation with the Mt. Wilson Observatory.

A large project of research work will be at once undertaken, involving the close cooperation of the Mt. Wilson Observatory, the Norman Bridge Laboratory of Physics, and the Gates Chemical Laboratory of the institute. This research project will consist in a systematic attack on the most fundamental problem of physical science to-day—that of the constitution of matter and its relation to the phenomena of radiation. Further advance in these fields is to be expected, on the one hand, largely through the utilization of the most powerful agencies, such as enormously high temperatures and pressures, high-voltage discharges and intense magnetic fields; and, on the other hand, through the active cooperation of physicists, astrophysicists, mathematicians and chemists, whose combined viewpoints, knowledge, and experimental skill will contribute. These conditions already exist in large measure at Pasadena, but the scientific staff and the experimental facilities are to be so extended that the opportunities for the investigation of this fundamental problem will be exceptional.

It is also announced that, in order to supplement the work in mathematical physics now carried on by Professor Harry Bateman, Profesor H. A. Lorentz, of the University of Leiden, will be in residence as lecturer and research associate of the institute during two months of the winter term, and that Dr. C. G. Darwin, of the Univerity of Cambridge, has been appointed professor of mathematical physics at the institute for the college year of 1922–23.

THE COURSE IN GENERAL ZOOLOGY: METHODS OF TEACHING

Professor Shull has done a signal service to the teaching of general zoology by calling attention to the defects of the one-time prevalent "type course" and to certain advantages to be gained by basing the course on general principles. The kind of course deemed best by Professor Shull is indicated in his papers in Science[1, 2] and his recent "Principles of Animal Biology"[3] and "Laboratory Directions."[3] Professor Nichols[4] has discussed the relative merits of a course in general biology as compared with separate courses in botany and zoology, and Professor Henderson[5] has made a plea for the substitution of the study of human physiology for the study of animals and plants. Professor Colton[6] has discussed aim and incentive from the standpoint of the attitude of the student toward the subject. In none of these papers, however, has much been said as to fundamental *purpose* or *method*. Professor McClung[7] in his appeal for a discussion of the general course in zoology indicated that these subjects should receive predominant attention in any effort to arrive at a satisfactory conclusion as to how the course should be given. It is to the subjects of purpose and method, and especially the latter that the writer desires to invite attention.

It would seem to be self-evident that matters of content, arrangement and method should be determined by the aim or purpose

[1] Science, December 27, 1918.
[2] Science, March 26, 1920.
[3] New York, McGraw-Hill Book Co.
[4] Science, December 5, 1919.
[5] Science, January 16, 1920.
[6] Science, April 16, 1920.
[7] Science, April 11, 1919.