size the fact that our present body of knowledge is the result of arduous, devoted labor, often attended with great personal sacrifice.

For purposes of a liberal education such ideas are vastly more important than mere information concerning economic uses and commercial processes, or the details of structure and function, and the latter, while essential, to a certain degree, as a foundation for the broad concepts above mentioned, should be presented, in the introductory course at least, as a means to the larger end.[7] If such a revelation as a course of this character will give does not prove a stimulus and lure to delve further into botany or general biology, nothing will, and student and teacher alike should feel amply repaid for the discovery that the student must seek his own life work and major interest elsewhere.

C. STUART GAGER
BROOKLYN BOTANIC GARDEN

THE RETIREMENT OF PROFESSOR EDWARD L. NICHOLS

ONE of the striking events of the Semi-Centennial Celebration of Cornell University —June 19–23—was the "Physics Conference and Reunion in honor of Edward Leamington Nichols upon the completion of thirty-two years service (1887–1919) and his retirement from active duty as head of the Department of Physics."

Briefly stated it consisted of a reunion of teachers and members of the physics seminary during the thirty-two years of his leadership in the department; of a meeting of the seminary—the last at which Professor Nichols should act as official chairman; and finally of a conference to discuss by what methods and through what means the department can be made of the greatest service to the university and to the country.

[7] This is in essential harmony with Professor Davis's more concise statement that the introductory course will "come more and more strongly to stand out as one that attempts nothing more than the grounding of fundamental principles and a selection of information with rather definite reference to its general and practical interests, or its broad philosophical bearing."

The reports at the final seminary were upon "Electromagnetic Induction," by Dr. S. J. Barnett; "The Vacuum Tube and the Development of the Wireless Telephone," by Captain Ralph Bown, and "Binaural Hearing and its Application to the Location of Air and Water Craft," by Professor George W. Stewart.

At the conference—presided over by Dr. P. I. Wold, Western Electric Co., New York City—there was a general discussion on physics as a profession, in which the following leading features were dealt with: (1) The demand and opportunities for the physicist; (*a*) in industry; (*b*) in government laboratories and departments and (*c*) in university teaching and research. This discussion was opened by Mr. E. C. Crittenden, of the U. S. Bureau of Standards. (2) The preparation required to meet this demand: (*a*) the undergraduate curriculum; (*b*) graduate training. This discussion was led by Dr. C. H. Sharp, of the Electrical Testing Laboratories, New York, and by Dr. P. G. Nutting, of the Westinghouse Research Laboratory, Pittsburgh, Pa. (3) The function of research in this preparation: (*a*) research by students; (*b*) research by faculty; (*c*) how can conditions for research be improved. Discussion opened by Dr. Wheeler P. Davey, of the General Electric Company, Schenectady, New York. How could a department—indeed the university as a whole—be so efficiently helped as by this method in which her loyal sons who have faced the world and won, come back to tell wherein their college had helped them and wherein greater help could be given to those who are to come after!

One of the pleasantest incidents was the reunion dinner, at which over two hundred and twenty-five of Professor Nichols's old students, colleagues and friends joined in the spirit of a devoted family to show affection and esteem for their retiring leader. The toastmaster was Ernest Merritt, student, colleague and friend, who succeeds Professor Nichols as head of the department. In the greetings given by the toastmaster and in all of the speeches there were three dominant

notes: Profound admiration for the clear mind which has accomplished so much for the university and for science; gratitude for the wisdom with which he has guided the development of the department, for the standards of teaching and research which he advocated and maintained and for the inspiration he breathed into all about him; and greatest of all the personal affection and esteem for their leader, and rejoicing that, freed from teaching and administrative cares, he was to remain with the department to carry on his researches and lend the inspiration of his presence.

The first speaker called upon was the president of the university—President Schurman. He expressed in fitting words the feelings of all of us when he characterized Dr. Nichols as a man who as teacher, administrator and investigator had measured up to the highest standard, and had realized in his department and in the university the ideal college professor, one that a university president rejoices in finding and when found gives him encouragement and support to the limit.

Professor Ernest Fox Nichols sketched for us in broad outlines "A Generation of Physics in America," and showed the rôle that he whom we were honoring had played in that generation, and the mighty impulse forward he had given by founding the *Physical Review*, where American work could be fittingly published, and in aiding the formation of the American Physical Society where the young men especially found encouragement and a scientific home.

In discussing the early years of Professor Nichols's leadership, Mr. Louis B. Marks pointed out how that he had been one of the best possible friends of applied science from the zeal and earnestness with which he advocated and joined in the discovery of science to apply, and how the problem of the illuminating engineer had been helped to get upon a firm foundation by the exposition of the principles of photometry and the establishment of a photometric laboratory in the department of physics. While it was not upon the program, a pleasant incident was the tribute of appreciation brought by Dr. C. H. Sharp, from the Illuminating Engineering Society in recognition of Professor Nichols's work in putting the measurement of light upon a scientific basis. The tribute was election as honorary member of the society—the only other honorary member being Thomas A. Edison.

Besides the address of former members of the physics seminary, Dean Frank Thilly of the College of Arts and Sciences expounded in a pleasant way the skill with which Dr. Nichols had cut red-tape and made the dean's office in that college a really efficient and helpful element in the university; and Professor S. H. Gage welcomed Professor Nichols into the group of the emeriti with the assurance that its freedom for investigation and its privileges made it the happiest group in the whole educational world.

Finally in behalf of the members of the seminary past and present Dr. C. W. Waggoner, presented as a tribute of affection, a beautiful, inscribed silver tea service which up to that time had been hidden under a bank of roses.

All generous minds can understand why Professor Nichols was thus honored when they read his response:

> If health permits and life lasts I am coming back (*i. e.*, from Japan) and I hope I may have a few years more, so that with that sort of curiosity which has always animated me I may have the privilege of watching the wheels go round, for that is all I feel I can do or ever have done. It has been delightful—unspeakably delightful—that life which comes from the study of science. What I would like to say, among the thousand things I would like to say and can not, is that you must not be content with the things the generation that is passing away had to be content with. It is for you to do greater things, and more important things than we have ever done. The things are crying to be done, and the world is crying out to have them done. If Cornell is to be what we all hope and believe she is to be, it can only be through the endless strivings of the imagination, through ceaseless labors and great creative art. It can only be by the highest efforts of everybody who has a mind to do anything whatsoever. Then we can look back upon the crude efforts of those who went before and while we

smile, we may at least believe that they looked forward to the things they could not accomplish but which you shall accomplish.

SCIENTIFIC EVENTS

THE JAMES WATT CENTENARY COMMEMORATION AT BIRMINGHAM[1]

THE arrangements for the James Watt centenary commemoration are now practically complete, the general scheme being set forth in a pamphlet issued by the Centenary Committee. The form which the memorial is to take is threefold: (1) To endow a professorship of engineering, to be known as the James Watt chair, at the University of Birmingham, for the promotion of research in the fundamental principles underlying the production of power, and the study of the conservation of the natural sources of energy; (2) to erect a James Watt memorial building to serve as a museum for collecting together examples of the work of James Watt and his contemporaries, Boulton and Murdock, as a meeting place and library for scientific and technical societies, and as a center from which engineers could cooperate in spreading scientific knowledge; and (3) to publish a memorial volume.

The success of the memorial will depend upon the response to the appeal for funds, and we are glad to note that assurances of support have come not only from all parts of the British Isles, but also from France and America. As indicated in our issue of May 15, we attach special importance to the foundation of the James Watt chair of engineering, and we can imagine no better memorial to the great engineer than the creation of a school of research so endowed as to attract both a professor of exceptional ability and also the most brilliant students, of whatever class. Such a scheme would require an endowment on a scale altogether greater than that which is usually associated with chairs in universities, but it should be possible to raise the necessary money—especially with the sympathetic help of America, which of recent years has shown not only a ready appreciation of the value of scientific research, but also a generosity in its endowment which has been more admired than imitated in this country. It must always be remembered that the vital factor in research is the *man*, and every possible inducement should be offered to secure the best men, both as directors and students.

The commemoration ceremonies are to extend over the three days, September 16–18, and the official program includes a garden-party at Watt's house (where his workshop can be seen in the state in which he left it in 1819), and visits to Soho Foundry and two of his engines (one of which, the first pumping engine built for sale by Boulton and Watt in 1776, will be seen at work). A degree congregation is to be held by the university at which honorary degrees will be conferred on distinguished engineers and men of science.

The committee has issued a short pamphlet (by Professor F. W. Burstall) in which an appreciation is given of the salient facts in the life of Watt, and of his epoch-making association with his colleagues Boulton and Murdock.

[1] From *Nature*.

MEETING OF THE SUBCOMMITTEE ON PATHOMETRY OF THE INFLUENZA EPIDEMIC OF THE PUBLIC HEALTH ASSOCIATION

THE Section on Vital Statistics of the American Public Health Association at the Annual Meeting in Chicago in December, 1918, reorganized the Special Committee on Statistical Study of the Influenza Epidemic with three subcommittees on Registration and Tabulation Practise of the Federal Departments (Subcommittee A), the State Departments and Commissions (Subcommittee B) Municipal Boards of Health and of other local Public Heath Agencies (Subcommittee C) and a fourth subcommittee (D) on Pathometry or Mathematical Analysis and Interpretation of the Epidemic.

Subcommittee A, B, C have met at various times and will have data ready for the consideration of subcommittee D at a meeting called for 9:30 A.M., September 19, at Columbia University. Sessions wil follow in the afternoon and on Saturday the twentieth.

The discussions at the preliminary meetings