lications. The detailed plans so carefully and skilfully developed by a committee of the society and adopted by the council have proved to be a very successful experiment. It has, Dr. Adams believes, operated to the satisfaction of practically all the membership and to the advantage of the American Chemical Society.

In 1932 and 1933 the society's income was insufficient to meet even the reduced budgets of those years. It is encouraging, therefore, that in 1934 the funds received were adequate, not only to handle all the financial obligations, but also to offset partially the rather substantial deficit of the previous year. The advertising revenue also improved. As a result of the somewhat larger income, the directors felt justified in increasing the publication appropriation in the 1935 budget so that the *Journal of the American Chemical Society* and *Industrial and Engineering Chemistry* might provide more effectively for the printing of material submitted by the members; and that *Chemical Abstracts,* which had been required to contract below the desirable minimum, might expand slightly its presentation of the chemical literature of the world.

Because of the difficult years through which the society has just passed, a few comparative figures on the membership and subscriptions are pertinent. To-day the total membership is 17,003. On April 1 of this year, there were over 1,800 $9 members, representing about a 25 per cent. increase in this group over last year. The maximum number of resignations came at the beginning of 1933, but each year since then the number has materially decreased; at that time, also, the number of new members and reinstatements was at a minimum but has increased regularly during the intervening period.

As of April 1, 1935, the *Journal of the American Chemical Society* and *Chemical Abstracts* have each received subscriptions amounting to over 300 more than last year and *Industrial and Engineering Chemistry,* to over 800 more. The total subscriptions of all paid members and non-members to the three publications at present is over 9,100 for the *Journal of the American Chemical Society,* over 11,500 for *Chemical Abstracts* and over 14,700 for *Industrial and Engineering Chemistry.* The *News Edition* enjoys the largest circulation of any magazine going to chemists—18,616. All indications point to a healthy condition of the society; all curves point upward.

Of the various committees of the society appointed last year, one of special interest because of its particular objectives may be mentioned. It has been actively engaged in studying the requirements of courses in education for chemists before they are eligible for teaching positions in high schools.

During 1934 the unemployment problem has received special attention. In addition to the free advertisement in the employment information pages of the *News Edition,* the activities of several of the local sections and the aid which is given through the secretary's office in placing before employers the names of unemployed, a committee of the society, with an appropriation for necessary expenses, has been attempting to determine the actual unemployment conditions among chemists and to point out how the society might cooperate to alleviate them.

The problem is a complicated one and extends beyond the attempt to find vacancies for those out of work. It involves a consideration of the training of the individuals as demanded by industry and the personal qualifications of those unemployed. It is recognized by all that the American Chemical Society can not directly create positions for chemists. It can and has devoted untiring effort to make the nation chemically conscious and thus indirectly to stimulate the industries to an appreciation of what contributions the chemist may make in a wide variety of fields of endeavor. Cooperation of the many efficient local agencies and of the national society in devising methods for aiding the unemployed should unquestionably lead to improved conditions.

INSTITUTIONS SELECTED FOR WORK BY FELLOWS OF THE NATIONAL RESEARCH COUNCIL

THE National Research Council has issued a bulletin giving the results of an inquiry into the institutions selected by research fellows in physical science at which to carry on their work. These results, with special reference to the situation at Princeton University, are summarized in the *Alumni Weekly,* in part, as follows:

National Research Council grants are given only to holders of the Ph.D. degree. Certain men divide their time among two or more universities, and in the following tables each institution has been credited as if the individual had spent his entire time there. Fellows in mathematics are accredited jointly to Princeton University and to the Institute for Advanced Study, the mathematics divisions of which cooperate in many phases of graduate work.

Chicago continues in first place in the matter of training men who are to be awarded National Research Council fellowships, but Princeton is close behind. For the three branches of science, future winners of fellowships have received Ph.D. degrees from the following universities, among others:

PLACE OF GRADUATE TRAINING
Past and Active Fellows

Chicago	45	Wisconsin	23
Princeton	43	Yale	22
California	37	Columbia	16
Harvard	35	Cornell	16
C. I. T.	31	M. I. T.	14
Hopkins	31	Michigan	14

Princeton has undisputed first place on a list of the institutions at which the fellowship-holders elected to study. These are the figures for certain of the leading institutions in the three sciences:

PLACE SELECTED FOR ADVANCED RESEARCH
Past and Active Fellows

Princeton	104	Hopkins	17
Harvard	85	Yale	15
C. I. T.	79	Wisconsin	12
Chicago	52	Cornell	9
California	40	Columbia	8
M. I. T.	33	Michigan	8

The two tables above can be combined to give an approximate statement of the universities' standing. There are rarely duplications between the two lists:

COMBINED TABLE
Past and Active Fellows

Princeton	147	M. I. T.	47
Harvard	120	Yale	37
C. I. T.	110	Wisconsin	35
Chicago	97	Cornell	25
California	77	Columbia	24
Hopkins	48	Michigan	22

Counting only the fellows active at the present time, Princeton also enjoys first position, indicating that the record of the past is being maintained.

COMBINED TABLE
Active Fellows

Princeton	18	Wisconsin	5
Harvard	12	Chicago	4
California	11	N. Y. U.	4
C. I. T.	11	Columbia	3
M. I. T.	11	Cornell	3
Hopkins	8	Brown	2
Illinois	6	Iowa	2
		Yale	2

California has the best record in physics among this year's fellows, three of its doctors holding fellowships at other universities, and four men from elsewhere having elected to study at Berkeley. Second place in physics this year goes to California Institute of Technology, and third to Massachusetts Institute of Technology. Princeton, New York University and Wisconsin are tied for fourth.

The Massachusetts Institute of Technology is first in chemistry and is followed by California Institute of Technology, Harvard, California, Princeton and Wisconsin.

In mathematics Princeton is followed by Brown, Harvard, Hopkins and Chicago.

ENGINEERING IN THE SUMMER SESSION OF COLUMBIA UNIVERSITY

DURING the thirty-sixth Summer Session of Columbia University, which begins on July 8 and continues until August 16, instruction will be given in chemical, civil, drafting, electrical and household engineering.

Professor Arthur W. Hixson will be in charge of work in chemical engineering. With Professor Lincoln T. Work he will supervise a chemical engineering laboratory in which a thorough experimental study will be made of the basic operations employed in chemical manufacturing plants. Professor William D. Turner will conduct a course in the Chandler Laboratories on the application of chemistry in industry. Industries producing chemicals, using chemical methods or involving chemical control of process will be studied. The course is also designed for teachers of general chemistry in high schools and colleges who wish an up-to-date knowledge of practical chemistry as a means of bringing greater human interest into their teaching. Research work will be carried on in the laboratories by advanced students under the direction of Professors Hixon, Work and Turner.

Camp Columbia, at Lakeside, Conn., will be the headquarters for students of civil engineering, who will be under the direction of Professor James K. Finch. A lake adjoins the camp cabins, which are situated in the hills on a ten-acre tract.

Work in electrical engineering will be carried on by Professor F. W. Hehre, while the engineering drafting work will be under the supervision of Professor C. H. Schumann, Jr., who will have charge of engineering drafting. Descriptive geometry, statistical drafting and mechanical drafting will also be studied in this division.

Household engineering, dealing with the fundamental principles of mechanics, heat and electricity and their applications to the home, as well as a course on simple tests of household appliances, will be directed by Professor Carleton J. Lynde, of the department of physics.

A special series of lectures by Dean Joseph W. Barker, of the Columbia School of Engineering, and others will deal with "Science and Mathematics in Engineering." The lectures will be designed to assist teachers in their work of counseling with high-school students concerning vocational careers. Specialists will represent each of the major fields of engineering.

SCIENTIFIC NOTES AND NEWS

THE degree of doctor of science was conferred on June 4 at the commencement exercises of Columbia University on William Slocum Barstow, electrical engineer, and on Harvey Fletcher, electrical engineer and director of acoustical research in the Bell Telephone Laboratories.