

# SCIENCE

Vol. 86

FRIDAY, NOVEMBER 12, 1937

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKEEN CATTELL and published every Friday by

## THE SCIENCE PRESS

New York City: Grand Central Terminal  
Lancaster, Pa. Garrison, N. Y.

Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

## NATIONAL RESEARCH FELLOWSHIPS IN THE BIOLOGICAL SCIENCES

By Dr. WILLIAM J. ROBBINS

UNIVERSITY OF MISSOURI

NATIONAL research fellowships in the biological sciences were established in 1923, supported by grants from the Rockefeller Foundation and administered, under the auspices of the National Research Council, by a National Fellowship Board in the Biological Sciences. The National Research Fellowships in the physical and biological sciences will be administered in the future by a single National Research Fellowship Board in the Natural Sciences. In view of the merging of the two fellowship boards, one in the biological sciences and one in the physical sciences, it seems appropriate at this time to make a report on certain aspects of the activities of the Fellowship Board in the Biological Sciences.

In the fourteen years from 1923 to 1937 the board administered the expenditure of \$1,280,580.74, distributed as follows:

For fellowships:	
Domestic stipends .....	\$ 982,325.25
Foreign stipends .....	183,165.92
Domestic travel .....	10,408.59
Foreign travel .....	31,247.92
Tuition and laboratory fees .....	4,800.89
Total .....	1,211,948.57
For administration:	
Travel, board members .....	15,035.01
Travel, applicants .....	4,072.81
Office expense .....	49,524.35
Total .....	68,632.17
Grand total .....	1,280,580.74

As may be noted from these figures, the amount devoted to tuition and laboratory fees was small. This is because the fellowships were regarded as a cooperative program between the universities and the National Research Council, in which the universities supplied the place of work and equipment and the council the stipends of the fellows. It is not possible to estimate accurately the value of the services and material supplied in this way by the institutions at which the fel-

lows spent their fellowships, but conservatively stated the contribution made by institutions to the fellowship plan probably amounts to \$200,000 or more. The assistance was given freely and is an item of no small importance in the success of the fellowship program. Furthermore, the cost of administration has been minor, amounting to 5.4 per cent. of the total funds expended. This is in part because the fellowships were administered by a group of scientists actively engaged in teaching and research, who regarded the funds they administered as a public trust and gave their time to the program freely and without compensation.

The fields covered by the board throughout its history were anthropology, botany, zoology and psychology. Agriculture and forestry in their more fundamental aspects were added in 1926. A policy of rotation in the membership of the board was followed, with the result that although the membership at no time exceeded twelve, many more individuals than this number served on the board for longer or shorter periods. The following is a list of names, fields and terms of service of the members of the board for its entire history:

#### *Agriculture*

Cole, L. J. ....	July 1, 1926-June 30, 1936
Emerson, R. A. ....	July 1, 1934-March 1, 1937
Kraus, E. J. ....	July 1, 1929-June 30, 1934
Riley, William A. ....	July 1, 1936-March 1, 1937

#### *Anthropology*

Cole, Fay-Cooper .....	July 1, 1929-June 30, 1931
Jenks, A. E. ....	*1923-June 30, 1924
Kidder, A. V. ....	July 1, 1926-June 30, 1927
Lowie, R. H. ....	July 1, 1931-June 30, 1934
Sapir, Edward .....	July 1, 1932-June 30, 1936
Shapiro, H. L. ....	July 1, 1934-March 1, 1937
Tozzer, A. M. ....	July 1, 1929-June 30, 1932
Wissler, Clark .....	*1923-June 30, 1929

#### *Botany*

Allen, O. E. ....	July 1, 1929-June 30, 1931
Bartlett, H. H. ....	*1923-June 30, 1931
Chandler, W. H. ....	July 1, 1936-March 1, 1937
Crocker, William .....	July 1, 1927-June 30, 1929
Duggar, B. M. ....	July 1, 1925-June 30, 1927
Gardner, M. W. ....	July 1, 1932-June 30, 1936
Harper, R. A. ....	*1923-June 30, 1924
Johnson, D. S. ....	July 1, 1931-June 30, 1932
Kunkel, L. O. ....	July 1, 1929-June 30, 1932
Lewis, I. F. ....	July 1, 1933-June 30, 1936
Nichols, G. E. ....	July 1, 1934-March 1, 1937
Osterhout, W. J. V. ....	*1923-June 30, 1930
Robbins, W. J. ....	July 1, 1930-March 1, 1937
Sinnott, E. W. ....	July 1, 1931-June 30, 1934

#### *Forestry*

Bailey, I. W. ....	July 1, 1929-June 30, 1933
Hartley, Carl .....	July 1, 1933-March 1, 1937

#### *Psychology*

Bentley, Madison .....	July 1, 1930-June 30, 1934
Carr, Harvey .....	July 1, 1934-March 1, 1937
Dodge, Raymond .....	*1923 only
Dunlap, Knight .....	July 1, 1927-June 30, 1930
Hull, Clark L. ....	†November 5, 1935
Hunter, Walter S. ....	July 1, 1936-March 1, 1937
Johnson, H. M. ....	July 1, 1930-June 30, 1933
Peterson, Joseph .....	†July 1, 1933-September 21, 1935
Poffenberger, A. T. ...	July 1, 1932-June 30, 1934

Seashore, C. E. ....	*1923-June 30, 1930
Stratton, G. M. ....	July 1, 1925-June 30, 1926
Thorndike, E. L. ....	*1923-June 30, 1931
Woodworth, R. S. ....	July 1, 1924-June 30, 1925

#### *Zoology*

Banta, A. M. ....	July 1, 1933-March 1, 1937
Coker, R. E. ....	July 1, 1936-March 1, 1937
Curtis, W. C. ....	July 1, 1930-June 30, 1931
Grave, Caswell .....	July 1, 1934-March 1, 1937
Harrison, Ross G. ....	July 1, 1929-June 30, 1932
Jacobs, M. H. ....	July 1, 1931-June 30, 1934
Jennings, H. S. ....	July 1, 1930-June 30, 1933
Lillie, F. R. ....	*1923-June 30, 1932
McClung, C. E. ....	*1923-June 30, 1929
Metcalf, M. M. ....	July 1, 1924-June 30, 1925
Morgan, T. H. ....	*1923-June 30, 1930
Payne, F. ....	July 1, 1932-June 30, 1933
Tennent, D. H. ....	July 1, 1932-March 1, 1937
Woodruff, L. L. ....	July 1, 1928-June 30, 1931

#### SECRETARIES OF THE BOARD AND THEIR TERMS OF SERVICE

Edith Elliott Conger ...	From organization of board in 1923 to June 30, 1931
Susie G. Barnum .....	July 1, 1931-March 1, 1937

#### CHAIRMEN OF THE BOARD AND THEIR TERMS OF SERVICE

Lillie, F. R. ....	1923-June 30, 1932
Robbins, W. J. ....	1932-March 1, 1937

\* Member of board when organized in 1923.

† Appointed to fill out the term of Dr. Joseph Peterson.

‡ Deceased on September 21, 1935.

The fellowships were post-doctoral in character and open to men or women of United States and Canadian citizenship who had completed the degree of doctor of philosophy or its equivalent. The purpose was to promote research in the fundamental branches of the biological sciences by aiding in the development of promising young investigators. Through the medium of the fellowships it was hoped that research might be continued into the post-doctoral years and that the fellow, after an association with men and institutions well fitted to advance his development, would remain productive in his chosen field. Since the board was more concerned with the effect of the fellowship upon later research than the research completed during the fellowship, the appointees were as a rule individuals who had recently completed the requirements for the doctor's degree and not over thirty-five years of age.

During the past fourteen years the board considered a total of 1,750 applications, of which 1,414 were for new appointments and 336 for reappointment. Of the applicants for new appointments 398 were appointed.

#### DISTRIBUTION OF APPLICANTS AND APPOINTEES BY FIELDS

Of the total number (1,414) of new applicants, 4.5 per cent. were in anthropology, 23 per cent. in botany, 21 per cent. in psychology, 39 per cent. in zoology and 12.5 per cent. in agriculture and forestry. Of the applicants in each field the following proportions were appointed: anthropology, 50 per cent.; botany, 30 per

cent.; psychology, 30 per cent.; zoology, 24.5 per cent., agriculture and forestry, 25.5 per cent.

#### PLACE OF STUDY

The place of study was selected by the fellow with the advice and approval of the board. While, as might be anticipated, there was a concentration of fellows at the larger and stronger institutions, nevertheless the distribution of places of study was surprisingly wide. Fellows studied at fifty-six institutions in the United States and Canada and at forty-nine foreign institutions.

#### SOURCE OF NATIONAL RESEARCH FELLOWS

Since the applicants and the fellows are a selected group of highly trained individuals, it is of some interest to determine their origins. Where did the applicants and fellows of the National Research Fellowship Board in the Biological Sciences secure their undergraduate and their graduate training?

#### UNDERGRADUATE TRAINING

The undergraduate training of applicants and fellows was secured at a surprisingly large number of institutions. Applications were received from students with baccalaureate degrees from 280 colleges and universities, of which thirteen were Canadian universities and ten those of other foreign countries. Fellows were appointed with undergraduate degrees from 165 colleges and universities, of which ten were Canadian and four those of other foreign countries. It is evident that the undergraduate training of those who seek careers in research in the biological sciences is not centralized in a few institutions. Many of the institutions at which applicants and fellows secured their undergraduate training were small. In fact, some institutions with registrations of from 400 to 800 gave undergraduate training to as many applicants and fellows as did some institutions with registrations of from 10,000 to 28,000. That there is no necessary relation between the size of an institution and the proportion of the students who went on into graduate work and were appointed fellows is evident from the following:

According to the 1935 Educational Directory of the United States Office of Education there were 461 institutions in the United States and Canada with annual enrolments of less than 1,000. The average enrolment of the institutions was 406. A total of 83 fellows was appointed with baccalaureate degrees from sixty-four of the 461 institutions. This is at the rate of forty-four fellows per 100,000 enrolment of all institutions in this class. Comparable figures are given in Table I for institutions having enrolments of between 1,000 and 2,999, institutions with enrol-

ments of between 3,000 and 4,999 and for institutions of 5,000 and over.

It seems clear from the data in Table I that a student who wishes to enter the field of research in the biological sciences is not necessarily handicapped by taking his undergraduate work at a small institution. The number of fellows per 100,000 registration in institutions of different sizes shows no regular trend. It must be admitted, however, that registration in professional schools and in the graduate schools in the larger institutions and the probable omission of some of the smaller schools from the list consulted, weight the statistics in favor of the small institutions. No explanation is at hand for what appears to be a low figure for institutions with enrolments of from 3,000 to 4,999. It is rather surprising that in the period of fourteen years some institutions (eight out of thirty-seven) with annual enrolments of 5,000 and over are not represented by a single fellow who completed his undergraduate work at those institutions.

The institutions from which three or more fellows received baccalaureate degrees are given in Table I, grouped according to enrolments as given in the 1935 Educational Directory of the U. S. Office of Education.

TABLE I

Institution	Enrolment	Fellows with bachelor's degree
<i>Institutions with Enrolments of Less than 1,000:</i>		
Acadia University .....	466	3
Goucher College .....	630	4
Hamilton College .....	480	3
Hope College .....	500	3
<i>Institutions with enrolments of from 1,000 to 2,999:</i>		
University of British Columbia ..	1,752	3
Dartmouth College .....	2,479	6
University of Florida .....	2,848	3
Johns Hopkins University .....	1,816	8
University of Manitoba .....	2,520	3
Massachusetts State College .....	1,238	3
McGill University .....	2,675	4
Oberlin College .....	1,621	5
Princeton University .....	2,622	3
Rutgers University .....	2,448	4
Tufts College .....	2,042	3
Utah State College of Agriculture	2,380	4
<i>Institutions with enrolments of from 3,000 to 4,999:</i>		
Iowa State College .....	4,695	3
Kansas State Agricultural College	3,436	4
Pennsylvania State College .....	4,621	5
Stanford University .....	3,848	6
<i>Institutions with enrolments over 5,000:</i>		
University of California .....	21,125	23
University of Chicago .....	11,054	9
Columbia University .....	30,211	14
Cornell University .....	5,717	13
Harvard University .....	7,729	13
University of Illinois .....	13,067	5
Iowa State University .....	8,064	5
University of Michigan .....	9,570	12
University of Minnesota .....	13,393	9
University of Missouri .....	5,483	7
University of Nebraska .....	7,486	5
College of the City of New York ..	22,182	3
New York University .....	28,269	3
Ohio State University .....	13,505	4
University of Pennsylvania .....	6,233	4
University of Texas .....	8,159	4
University of Toronto .....	7,711	3
University of Washington .....	12,148	3
University of Wisconsin .....	8,657	14
Yale University .....	5,362	6

Four only out of 461 institutions with annual registrations of less than 1,000 are represented by three or more fellows. For institutions of enrolments between 1,000 and 2,999 there were twelve out of 112; for institutions of between 3,000 and 4,999 students there were four out of twenty-nine; and for institutions with enrolments of 5,000 there were twenty out of thirty-seven.

The geographical distribution of applicants and fellows in the United States, tabulated according to the place of undergraduate training, shows all sections of the United States represented (Table Ia), but not

TABLE Ia

NUMBER OF APPLICANTS AND APPOINTEES OF THE NATIONAL RESEARCH FELLOWSHIP BOARD IN THE BIOLOGICAL SCIENCES ARRANGED BY GEOGRAPHICAL SECTIONS ACCORDING TO PLACE OF BACCALAUREATE DEGREES\*

Section of U. S.†	Number of applicants	Applicants per 10,000 students in collegiate departments	Fellows	Fellows per 10,000 students in collegiate departments
New England . . . .	141	41	45	13.2
Middle Atlantic . .	330	25	95	7.3
East Central . . . .	294	26	85	7.5
West Central . . . .	214	34	62	9.7
East South . . . . .	69	12	15	2.7
West South . . . . .	48	10	12	2.5
Northwest . . . . .	71	38	11	6.0
Southwest . . . . .	140	21	40	6.0

\* Enrolment figures as given in World Almanac of 1936.

† New England includes Massachusetts, Maine, Vermont, New Hampshire, Rhode Island, Connecticut; Middle Atlantic includes New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Virginia and District of Columbia; East Central includes Wisconsin, Illinois, Indiana, Ohio, Michigan, Kentucky; West Central includes North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Missouri and Kansas; East South includes North Carolina, South Carolina, Tennessee, Georgia, Mississippi, Alabama and Florida; West South includes Arkansas, Oklahoma, Texas and Louisiana; Northwest includes Washington, Oregon, Idaho, Montana and Wyoming; Southwest includes California, Nevada, Utah, New Mexico, Colorado and Arizona.

equally. The applicants who received undergraduate training in the south were fewer in number than those who received similar training in the New England states or in the Southwest, less than one half of those from the East Central or West Central and about one third of those from the Middle Atlantic States. The number relative to collegiate enrolment (excluding the graduate and professional schools) is still more significant. Relative to collegiate enrolment more applicants came from the New England, West Central and Northwest sections than from others, and by far the fewest came from the South.

The distribution of fellows (Table II) arranged geographically, according to undergraduate training, is much similar to that of the applicants. However, a comparison of the ratio of fellows to applicants for a given section shows that about 30 per cent. of the applicants with undergraduate training from institutions in the New England, Middle Atlantic, East Cen-

TABLE II  
NUMBER OF FELLOWS ON BASIS OF BACCALAUREATE DEGREE FROM INSTITUTIONS OF DIFFERENT SIZES\*

Size of institution based on enrolment	Total institutions	Average enrolment	No. of institutions at which baccalaureate degrees were taken	Number of fellows with baccalaureate degrees from institutions indicated	Fellows per 100,000 students in the institutions indicated
Less than 1,000 . .	461	406	64	83	44
1,000-2,999 . . . .	112	1,750	52	104	53
3,000-4,999 . . . .	29	3,875	14	32	28
5,000 and over . . .	37	10,111	29	174	46

\* Enrolment figures taken from the 1935 Educational Directory of the United States Office of Education.

tral and West Central sections were appointed fellows; for the South and Southwest from 22 to 25 per cent. of the candidates were appointed and from the Northwest but 14 per cent. The reasons for the unequal geographic distribution of applicants classified on the basis of undergraduate training are various. One of them is, without doubt, the accessibility of good graduate schools, but other factors also play a part. The apparent discrimination between the different sections in the proportion of applicants appointed fellows also is the result of several influences which space precludes discussing here.

## GRADUATE TRAINING

Individuals with doctorates from sixty-four institutions in the United States and Canada and from twelve foreign institutions were included amongst the applicants. Fellows with doctorates from forty-one institutions in the United States and Canada and from six foreign institutions were appointed.

Graduate study is of necessity more highly centralized than undergraduate study. This is clear from a casual glance at Table III, in which the applicants and fellows are arranged by regions based on the

TABLE III

NUMBER OF APPLICANTS AND APPOINTEES NATIONAL RESEARCH FELLOWSHIP BOARD IN THE BIOLOGICAL SCIENCES ARRANGED BY GEOGRAPHICAL SECTIONS ACCORDING TO PLACE OF GRADUATE STUDY

	Applicants	Fellows
New England . . . . .	214	85
Middle Atlantic . . . . .	428	136
East Central . . . . .	307	79
West Central . . . . .	192	55
East South . . . . .	19	4
West South . . . . .	13	2
Northwest . . . . .	18	2
Southwest . . . . .	146	35

source of their doctors' degrees. In fact, the graduate schools of eight states (California, Connecticut, Illinois, Maryland, Massachusetts, New York, Pennsylvania and Wisconsin) furnished 925 applicants (65 per

cent. of the total) and 296 fellows (75 per cent. of the total).

A comparison of the figures in Table II and Table III shows the movement of undergraduates from the West Central and South to New England, Middle Atlantic and East Central sections for graduate work. Only 141 of the applicants took their undergraduate work in the New England States, but 214 secured a doctor's degree there. One hundred and seventeen of the applicants took their undergraduate work in the south, but only thirty-two secured their doctor's degrees there.

Again there is a difference between different sections in the percentage of applicants appointed as fellows. Of the applicants who completed work for the doctorate in the New England States, 39 per cent. were appointed fellows; for the Middle Atlantic States the percentage is 32; for the West Central, 28; the East Central, 25; the Southwest, 24; the East South, 21; the West South, 16; and the Northwest, 11.

In Table IV institutions are arranged according to

TABLE IV  
FELLOWS ARRANGED ACCORDING TO THE SOURCE OF DOCTORATE

Institutions	Fellows	Ranking by Eells*
Harvard University	49	University of California
Cornell University	32	Harvard University
Columbia University	30	Columbia University
University of Wisconsin	30	University of Wisconsin
Johns Hopkins University	29	University of Chicago
Yale University	28	Cornell University
University of California	25	Yale University
University of Chicago	20	University of Michigan
University of Minnesota	16	Johns Hopkins University
University of Michigan	14	University of Minnesota
University of Pennsylvania	14	University of Illinois
Iowa State University	13	Princeton University
University of Missouri	8	Stanford University
Princeton University	7	Ohio State University
Stanford University	7	University of Pennsylvania
Washington University	7	Massachusetts Institute of Technology
Iowa State College	6	Iowa State University
Clark University	5	California Institute of Technology
Ohio State University	5	University of Missouri
Brown University	4	Iowa State College
University of Kansas	4	Northwestern University
University of Illinois	4	New York University
University of Toronto	4	University of Texas
University of Pittsburgh	3	Bryn Mawr
University of Virginia	3	University of North Carolina
		Washington University

\* Walter C. Eells, *School and Society*, 39: 708-712, 1934.

the number of fellows having a doctor's degree from the institution. Institutions represented by less than three doctorates in the list of fellows are omitted. The ranking of these institutions in graduate work as given by Eells and based on the report of the Hughes Committee of the American Council on Education is given also.

With few exceptions those institutions ranked by Eells as having strong graduate schools are those at which the greatest number of fellows secured their graduate training. The ten institutions at which the

greatest number of fellows secured their graduate training are the first ten on the list of Eells. The next ten in Eells's list include only three which are not in the second ten in the ranking according to number of fellows. Two of these are primarily concerned with the physical sciences.

#### EFFECT OF THE FELLOWSHIP PROGRAM

To evaluate a program of this character in terms of its primary purpose, its effect upon biological research, is difficult, and it is not the purpose of this factual report to do so. It appears, however, that the majority of the former fellows are located in institutions in which it should be possible for them to use their training in further research. Former fellows are now associated in a professional capacity with 125 institutions at home and abroad and tend to be concentrated at the larger and stronger research institutions. The institutions with four or more former national research fellows in the biological sciences now on their staffs are as follows:

Harvard University	19
University of California	15
U. S. Dept. of Agriculture	14
Columbia University	12
University of Wisconsin	11
Yale University	11
Cornell University	8
University of Michigan	7
University of Pennsylvania	7
Rockefeller Institute	7
University of Chicago	6
University of North Carolina	6
California Institute of Technology	5
State University of Iowa	5
Iowa State College	5
Johns Hopkins University	5
University of Minnesota	5
University of Missouri	5
Brown University	4
Duke University	4
New York University	4
Washington University	4

Two former fellows are in commercial positions, three are unemployed, six doing independent research or writing, and no information is available on seven.

This brief report summarizes certain aspects of the national research fellowships in the biological sciences characterized by Lillie<sup>1</sup> as "a rather magnificent experiment in post-doctoral education." The effects of a fellowship program of this type, which has had as its primary purpose the training of a selected group

<sup>1</sup> Frank R. Lillie, "Post-doctoral Training for Productive Scholarship." Thirty-seventh Annual Conference of the Association of American Universities, 1935, pp. 147-153.

of men and women for research, will extend over many years. Its success can best be judged at a later time, since few of the national research fellows in the bio-

logical sciences have completed their fellowships for more than ten years and the majority less than five years.

## SCIENTIFIC EVENTS

### FILM SHOWINGS AT THE ANNUAL SCIENCE EXHIBITION

IN line with extended interest and usefulness of films to scientists, new features will be inaugurated at the coming exhibition in Murat Theater, Indianapolis, December 27 to 30. The members of the American Association for the Advancement of Science are requested to bring either long or short films which have been made either in connection with research or hobby. Unusual films or those with sound track are most desirable. Mr. Loyd A. Jones has promised the use of his film, "Motion Photomicrographs of Growing Crystals." This was first shown at the eightieth annual exhibition of the Royal Photographic Society of Great Britain. Dr. A. C. Ivy will permit the showing of his film portraying the motions in the gall bladder. This new feature is through the courtesy of the Bell and Howell Company jointly with the E. L. Bruce Company. The latter will also show an interesting science film called "Hidden Enemies."

The Eastman Kodak Company will give an interesting demonstration of the Eastman Special 16mm sound Kodascope along with other new Eastman developments.

The Erpi Picture Consultants, Inc., will show films produced in collaboration with the University of Chicago. The subjects to be presented will include: Mechanisms of breathing; the heart and circulation, body defenses against disease; the nervous system; velocity of chemical reactions; the earth in motion; the solar family; the moon; exploring the universe; digestion; catalysis, and light and colloids.

To promote interest in this new feature advance information to the director of exhibits would be helpful, especially concerning other films that are available.

F. C. BROWN,  
*Director of Exhibits*

### THE GRADUATE FORTNIGHT OF THE NEW YORK ACADEMY OF MEDICINE

Dr. JAMES ALEXANDER MILLER, president of the New York Academy of Medicine, welcomed the participants of the tenth annual Graduate Fortnight of the New York Academy of Medicine, which opened on November 1. He briefly reviewed the opportunities afforded by the lectures, by the clinical conferences and by the exhibit housed in the Academy of Medicine, for an inclusive and intensive review of what is known

concerning the diseases and the medical and surgical treatment of the genito-urinary tract. In pointing out the importance of graduate education he said:

If the medical profession is to fulfil its obligations to the public, no physician can afford to discontinue being a student after he is graduated in medicine. Otherwise he will gradually deteriorate professionally. One of the aims of the Academy of Medicine is to place the extraordinarily fine opportunities for graduate instruction which New York City affords at the disposal of the physicians of the city and of the neighboring communities. It is with these objectives in mind that the Graduate Fortnight was organized and during the ten years of its existence it has become increasingly valuable in the field of graduate medicine.

The addresses of the evening were given by Dr. Alfred N. Richards, professor of pharmacology at the University of Pennsylvania, and by Dr. Donald D. Van Slyke, of the Rockefeller Institute for Medical Research. Dr. Richards delivered the Wesley M. Carpenter lecture. His topic was "The Physiology of the Kidney." Dr. Van Slyke spoke on "Tests for Kidney Function." Approximately 2,500 physicians from New York City and surrounding communities participated in the sessions. The theme of the Graduate Fortnight was "Medical and Surgical Disorders of the Urinary Tract." The subject included Bright's disease, arterial hypertension, infections, tumors, calculi and obstructions of the urinary tract.

The Graduate Fortnight holds a series of ten evening lectures held in the academy, and thirty-six morning and afternoon clinical conferences and demonstrations in twenty-four city hospitals. An exhibition on the Medical and Surgical Disorders of the Urinary Tract was on view at the academy.

### THE NEW YORK MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

THE sixty-sixth annual meeting of the American Public Health Association, which was held from October 5 to 8 in New York City, registered a larger number of delegates than at any meeting in its history. The registration was 3,549. The next highest registration was at Chicago in 1928, when slightly more than 2,500 were registered. At the New York City meeting, every state in the Union was represented, Canada, Cuba, Mexico, Puerto Rico, Alaska, Hawaii, Philippine Islands, England, Germany, France, Belgium,