for comparison a similar analysis of the earned degrees of 3,446 persons engaged in any of the physical, chemical or biological sciences (including medicine), whose names appear in the 1915 edition of "Who's Who in America." The inclusion of a name in this publication indicates that its holder has attained a certain amount of public eminence though not necessarily of a kind indicated by his degree. An analysis of the degrees of these 3,446 persons shows that 48 per cent. have the M.D. degree, 20 per cent. have the M.D. only, 26 per cent. have the M.D. plus the A.B. or its equivalent, 2 per cent. have the M.D. plus the Ph.D., 23 per cent. have the Ph.D. without the M.D. and 29 per cent. have degrees other than M.D. or Ph.D. It therefore appears that in the field of physical, chemical and biological sciences the sort of eminence indicated by registry in "Who's Who" has been attained by twice as many with the degree of M.D. as with the degree of Ph.D.

An analysis of similarly selected names in "American Men of Science" was begun but abandoned since it was found that the latest (1910) edition does not include the names of many of the younger men who are largely responsible for the present progress of American medicine.

Until the later years of the last century the teaching of medicine in America, except in a very few schools, was a travesty on pedagogy. During the present century it has probably improved more than the teaching of any other science. To-day the man who obtains the M.D. degree from an institution with the equivalent of the "Minnesota standard," *i. e.*, including a final year's hospital or laboratory work, probably has quite as much scientific ability as the man who obtains the Ph.D. or D.Sc. degree from the same institution. This seems to be proved by the time he must study, by the character of the subject-matter of his studies, and by the probability of his accomplishing something in science in after life. If this be true and the M.D., Ph.D. and D.Sc. degrees from high-grade institutions represent an equivalent training, it must then appear that the three years of graduate training in a special branch of medicine now offered by the University of Minnesota should result in scientific ability just three years "to the good" of that represented by any one of the three doctorate degrees.

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SCIENTIFIC EVENTS

THE RESEARCH CORPORATION

THE Research Corporation was incorporated in the State of New York in 1912 on the initiative of Dr. F. G. Cottrell, who gave to it his patents concerning the process known as the "electrical precipitation of suspended particles." The objects of the corporation are:

First: To build up a business organization which, so far as possible, should be a model of efficient administration, for the purpose of demonstrating the commercial value of the precipitation processes included in the original gift and of such other inventions as the corporation might acquire by gift or otherwise, and of making such inventions a source of profit.

Second: From the profits so earned to accumulate an endowment fund to be used for the intensive study of scientific and industrial needs, and to provide the means, through the testing of new discoveries and through study, investigation and experimentation, of supplying such needs.

During the year 1916 the pioneer period in the application and development of the electrical precipitation processes may be said to have been completed. The corporation, which began with a cash capital of ten thousand dollars, is now spending that amount every month and has in its service a staff of forty-five engineers and others engaged in field and office work. The assets of the corporation as reported by the auditors on February 16, 1917, in cash and securities, were $217,862.72. A laboratory has been established and experts have been employed to study the workings of the precipitation processes, and, if possible, to develop improvements and meet new problems. Careful consideration has also been given to other patents and processes which have been offered to the corporation, and

although none have as yet been accepted, it is the purpose of the corporation to lend its aid to the utilization of any invention or discovery which offers sufficient promise of promoting the application of scientific discovery to the industrial arts.

For the purpose of encouraging scientific research directed to the development of the industrial arts the research corporation offers a fellowship of the annual value of $2,500, to be awarded on competition under the following conditions:

1. The competition will consist of the submission of evidence of scientific attainments, discoveries or inventions, and of special fitness for advanced work.

2. All persons desiring to compete must fill in a form of application, which will be furnished by the secretary of the corporation upon request, and file the same on or before October 1, 1917, together with such letters of reference, scientific publications and other documents or evidence as they may desire to submit, including a specific statement of the particular field or object of the research or investigation which the competitor proposes to conduct and a pledge that he will devote himself faithfully to the prosecution of such research or investigation if awarded the fellowship.

3. The competition shall be decided on or before December 1, 1917, by a jury consisting of the president of the National Academy of Sciences, the secretary of the Smithsonian Institution, the presidents of the American Chemical Society and Research Corporation, respectively, and the chairman of the Engineering Foundation, or such persons as they may respectively designate to act for them.

4. The term of the fellowship shall be one year from the date of the award, but the term may be extended by the corporation for two renewals of one year each in exceptional cases upon the recommendation of the jury.

5. The stipend of each fellowship will be paid as follows: $300 on the award of the fellowship and $200 monthly thereafter for the remainder of the year.

6. Fellows will be required to report in writing at the office of the corporation within twenty days from the date of the award (unless the time shall be extended) and to begin their research or investigation at once. In case of their failure to do so, or in case they shall fail to prosecute the same with proper attention, the fellowship may be terminated by the corporation.

7. Any fellow who shall resign or retire before the conclusion of the term of his appointment, or who shall be dismissed by the directors of the corporation for cause, will forfeit all privileges and emoluments of his fellowship and have no claim to the further payment of his stipend.

8. The corporation will endeavor to secure for fellows the privileges of laboratories specially adapted for their particular work.

9. Each fellow shall make a written report to the corporation at the conclusion of his appointment of the results of the research or investigation which he has conducted. Any discovery or invention which he may make shall be deemed his personal property.

ANTHRACITE COAL MINED IN 1916

THE anthracite mined in 1916 amounted to 78,195,083 gross tons, valued at $202,009,561, a decrease in quantity of 1.6 per cent. and an increase in value of 9.4 per cent. compared with 1915. The shipments decreased 1.7 per cent.—from 68,666,456 gross tons in 1915 to 67,501,363 tons in 1916. The shipments of prepared coal of sizes above pea in 1916 were 40,747,215 tons, a decrease of 1.1 per cent.; the shipments of pea size were 7,520,804 tons, a decrease of 8.4 per cent.; and the shipments of steam sizes smaller than pea were 19,233,344 tons, a decrease of but .05 per cent. compared with 1915. There was an increase of nearly 6 per cent. in the quantity of anthracite sold locally and used by employees and a decrease of 2.4 per cent. in the quantity used for mine fuel. The compilation of these statistics has just been completed by C. E. Lesher, of the United States Geological Survey, Department of the Interior.

The effect of the extraordinary demand for steam sizes of anthracite that followed the industrial activity in 1916 and the high price of bituminous coal is indicated in the figures showing the output of washery product and dredge coal. Although the freshly mined coal in the anthracite region, including Sullivan County, showed a decrease of 2.6 per cent. in 1916 compared with 1915 there was an increase of 19.6 per cent. in the quantity of anthracite obtained from the washeries, which