New Mexico, Albuquerque, for a three-year term; and Professor Victor J. Smith, Sul Ross State Teachers College, Alpine, Texas, to serve the remaining unexpired term of Dr. H. P. Mera, who was elected vice-president.

Biological Sciences:
Chairman, Dr. A. L. Hershey, Las Cruces, New Mexico
Secretary, Dr. Omer E. Sperry, Alpine, Texas

Mathematics:
Chairman, Professor Roy MacKay, Portales, New Mexico
Vice-Chairman, Dr. Lyle Mehlenbacher, Flagstaff, Arizona
Secretary, Dr. Harold D. Larsen, Albuquerque, New Mexico

Physical Sciences:
Chairman, Dr. C. T. Elvey, Fort Davis, Texas
Secretary, Dr. Oscar B. Muench, Las Vegas, New Mexico.

Social Sciences:
Chairman, Professor F. Martin Brown, Colorado Springs, Colorado
Secretary, Miss Katharine Bartlett, Flagstaff, Arizona

SCIENTIFIC EVENTS

CHEMICAL RESEARCH REPORTS

THE United States has led the world in the output of chemical research reports for the past ten years according to a survey made by Dr. E. J. Crane, professor of chemistry at the Ohio State University.

"Curves showing the relative shares of Germany and the United States in percentages of the world's total output of chemical papers since 1913 would take the form of an 'X' lying on its side with the upward slant representing the United States and the downward slant, Germany." Dr. Crane states that:

The crossing of the lines apparently occurred in 1930. An irregular spot would indicate the effects of the world war. An almost straight curve underlining this prostrate 'X' would represent the output of the next most active country—the British Empire.

In 1913, the last year before the world war, the German output of chemical papers was 34.4 per cent. of the world's total, while that of the United States was 20.7 per cent. and of the British Empire, 14.4. In 1939, in a sense the last year before the beginning of the present war in Europe since it got under way slowly and publication was little affected at first, the output of papers in the United States had reached 27.7 per cent. and Germany's had dropped to 18.7, with the British output remaining approximately 14 per cent.

At approximately the time when the lines of the 'X' cross, the British output was 13.5 per cent.; figures showing the effects of the world war (14.9, 16.8 and 15.4 per cent. for the British Empire for 1917, 1918 and 1923) still justify keeping the British curve approximately straight.

Most noteworthy is the strong development of chemical publication in Russia, which in 1913 has 2.5 per cent. of the total number of abstracts; in 1929, 3.4 per cent. and in 1939, 11.1 per cent. A good many Russian chemists have also been publishing papers in German periodicals.

While the figures on abstracts are not an exact measure of chemical research activity in the various countries, they have a good deal of meaning, nevertheless. No doubt there has been a growing amount of chemical research work directly bearing on national defense which has not been published. This may be true to a larger degree for some countries than for others.

There is also much industrial research activity that is not reflected in the publication of papers. Perhaps the number of chemical patents issued in the various countries may be considered a rough measure of industrial research activity in chemistry. In 1939, *Chemical Abstracts,* which endeavors to cover the chemical patents completely, published the following numbers of patent abstracts: United States, 7,727; Great Britain, 4,872; Germany, 2,929; France, 2,377.

The chemists of a few of the smaller countries, as Denmark, publish a considerable percentage of their papers in the journals of other countries. Happenings in Europe during the past year make the listing of countries puzzling, but the present survey ends with 1939.

France was fifth in number of abstracts published in 1939, ranking after the Soviet Union. Her percentage of the total was 9.1; Japan came next with 4.4 per cent., and Italy seventh, with 3 per cent. In 1913, Italy's percentage was 4.7, and in 1929, 3. France's percentage in 1913 was 13; it dropped to 7 in 1929. Japan had a percentage of only 0.37 in 1913, but reached 3.7 by 1929.

GRANTS OF THE GEOLOGICAL SOCIETY OF AMERICA

IN addition to grants authorized by the council of the Geological Society of America, which have already been reported, the following grants have been made in paleontology and petrology:

Paleontology, Invertebrate—$1,700.

Charles A. Anderson, University of California, will be assisted by J. Wyatt Durham in the study of Pliocene fossils collected in 1940 in Lower California on the cruise of the *E. W. Scripps* into the Gulf of California under a grant from the Geological Society of America. Mr. Durham was an assistant on that expedition and collected the fossils. $950.

E. R. Eller, Carnegie Museum, will study the Manitoulin (Silurian) dolomite of New York and Ontario with view to correlating its beds with beds of equivalent age in other parts of North America. Special study is to be