business policy of the nation is established, many new plants will be built and a flood of new products will come on the market. Modern American chemical industry is built solidly upon research and stands ready to bring new industrial life to the nation.

A study of world production of chemical products strikingly indicates the leading position of the American chemical industries. The annual production of chemical products in which these industries lead the world, such as petroleum products, rubber, cement, heavy chemicals, metal products, agricultural chemicals, engineering chemicals, explosives, foods, processing chemicals, air chemicals, sea water and brine chemicals, paints, pigments and many others are recorded in figures of almost astronomical proportions and whose values run into billions of dollars.

To-day, the United States produces more than three times as much sulphuric acid as Germany, four times as much as Great Britain, five times as much as France or Japan, and more than one third of the world output. Another typical product is chlorine. The United States produces more of this product than all of the rest of the world combined. Charleston, West Virginia, alone has a greater annual chlorine production than Germany. There are several alkali plants each of whose monthly production is greater than the annual output of Italy. The same supremacy is held by petroleum products, metal products, cement, synthetic textiles, rubber products, artificial leather and many others.

There will be held at the New York meeting a symposium on "The Economic, Social, Scientific and Political Structure of the Chemical Industries" by leading industrialists, financiers and scientific men. The program is being arranged with the assistance of the Merchants' Association, educational, art and other institutions.

THE SCIENCE EXHIBITION AT THE PITTSBURGH MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE Annual Science Exhibition of the American Association for the Advancement of Science will be held in the new building of Mellon Institute of Industrial Research during the association's meeting in Pittsburgh, December 27, 1934, to January 4, 1935. The exhibits, which will feature science in industry, particularly about Pittsburgh, will be on the third, the street level, floor of the institute's new home, just off Bellefield Avenue. At recent American Association for the Advancement of Science meetings there has been a growing recognition of the importance of the exhibition, and it is thought that the exhibits at Pittsburgh will be the most extensive and instructive ever shown.

The Committee on Exhibits, directed by Dr. F. C. Brown, and the local exhibition committee under the chairmanship of Dr. L. O. Grondahl announced on September 15 that about two thirds of the available space had been taken. As there will be about 4,000 in attendance from all parts of the United States and Canada, besides a somewhat larger number of manufacturers, scientists and teachers from the Pittsburgh area, it is recognized that exhibitors will have unparalleled opportunities to make contacts, to extend good will and to maintain prominence before a class of visitors whose opinions are weighty.

There will be many special attractions at the exhibition. In addition to the numerous commercial exhibits, there will be displays of cosmic ray research, deuterium, neutrons and induced radioactivity. There will also be presentations of equipment used in stratosphere flights, demonstrations of talking films with new subjects in the physical sciences, large biological displays and illustrated showings of recent advances in other sciences, particularly physics.

As mentioned, Mellon Institute will be the host to this exhibition. Every one who attends will therefore be able to see the principal features of the institute's beautiful new temple of science. Specialists interested in laboratory construction, equipment and operation can secure permission to inspect the facilities of the new building and can also see the displays of many companies that have made developments through the institute. There will be a reception room and lounge where members of the association may meet and confer or rest. Each afternoon tea will be served in the lounge, which will be made comfortable and attractive by aluminum furniture.

The exterior of the new building of Mellon Institute is completed and continuous progress is being made in the interior. Special attention is being accorded to finishing the laboratory rooms on the fifth and sixth floors. The erection of this edifice was commenced in 1930, and the structure is so designed that it will furnish the institute with the means for expanding greatly its research facilities and activities in both pure and applied science. The present two buildings of the institution are inadequate for the future needs of its departments and industrial fellowships, and hence the commodious modern home now under construction will be occupied just as soon as it is completed, during the fall of 1935. The building is of that type of classical Greek architecture known as Ionic; it is plain but massive, and is surrounded by 62 monolithic columns. Indiana limestone and granite are used throughout the exterior. The proportions of the building are about 300 x 275 feet, and there are nine floors. The main entrance, which is on the fourth floor, is reached by steps extending along the entire front on Fifth Avenue. The laboratories face on interior courts.

The architectural design of the exterior was perfected in detail by methods that involved the construc-

tion of three different models and numerous alterations and artistic refinements at each of these stages. The architects, Janssen and Cocken, first had made a model of the entire building to a scale of 5/32 in. to 1 ft. Then, after study and many changes in details, a larger model of a portion of the building was constructed to a scale of ¾ in. to 1 ft. Finally, it was decided to erect in the country near Pittsburgh a full-size model in stucco of a corner and two columns of the building; this model, about 90 ft. high and 40 ft. long, enabled the architects to determine the particulars of the most appropriate adornment of the building. A number of improvements in form and ornament of the columns and entablature were in fact accomplished in this manner. Similar caution and certainty, through experimental study and practical trial, are guiding H. S. Coleman, the institute's engineer, and the architects in solving problems encountered in the construction of the interior of the building and especially of the laboratory rooms. To facilitate dependable results in this planning, the institute erected a temporary, one-story structure, 45 ft. x 50 ft., in which two different sized laboratories, completely equipped, were built, and in which aluminum sash, various wall and flooring materials and different types of radiators have been installed and put to test. This "proving house," which has been making it comparatively easy to get early answers to constructional questions of importance, including problems of plumbing, electrical layout and lighting arrangements, will be open during the Pittsburgh meeting.

W. A. HAMOR

SCIENTIFIC NOTES AND NEWS

THE autumn meeting of the National Academy of Sciences will be held at Cleveland under the presidency of Dr. W. W. Campbell on November, 19, 20 and 21.

THE fifteenth International Physiological Congress will take place at Leningrad and Moscow from August 9 to 17, 1935. Professor Ivan P. Pavlov, who celebrated his eighty-fifth birthday on September 14, has been elected president of the congress. Board and lodging will be provided for members and arrangements will be made for visits to several parts of the country at reduced rates.

AT the Aberdeen meeting of the British Association for the Advancement of Science, it was agreed that the meeting at Norwich next year, under the presidency of Dr. W. W. Watts, should be held from September 4 to 11. Invitations have been accepted from Blackpool for 1936 and from Nottingham for 1937. An invitation from Cambridge City and University to hold the meeting of 1938 in Cambridge was accepted. A deputation was received from the City of Dundee and the University of St. Andrews, with its branch in Dundee, to hold the meeting of the association in Dundee in 1939 or 1940, the alternative having been given in view of a possible visit of the association to one of the Dominions in one of these years.

COLONEL SIR CHARLES CLOSE, vice-president of the Royal Geographical Society, was elected president at the fourteenth meeting of the International Geographical Union, held in Warsaw from August 23 to 31. He succeeds Dr. Isaiah Bowman, chairman of the National Research Council and director of the American Geographical Association. There were 887 delegates representing 44 countries at the meeting. France had 102 delegates, the British Empire 58 and Germany 50. The fifteenth congress will be held at Amsterdam in 1938. Sir Charles, who retired from the army in 1922, was president of the British Geographical Association in 1927 and president of the Royal Geographical Society from 1927 to 1930.

AT the fifty-second meeting of the American Astronomical Society held at Connecticut College from September 10 to 12, the following officers and members of the council were elected: *President,* H. N. Russell; *Vice-president,* C. A. Chant; *Secretary,* R. S. Dugan; *Treasurer,* F. C. Jordan; *Councilors,* Cecilia Payne Gaposchkin, W. E. Harper, J. H. Moore and R. E. Wilson. H. R. Morgan was elected a representative of the society on the Division of Physical Sciences of the National Research Council.

DR. FRANK E. BURCH, of St. Paul, Minn., was chosen president-elect of the American Academy of Ophthalmology and Otolaryngology at the annual conference held in Chicago from September 10 to 14, and Dr. Wells P. Eagleton, of Newark, N. J., became president. The medal of honor was awarded to Dr. Carl Koller, of New York, who first introduced cocaine as a local anesthetic fifty years ago.

DR. WALTER L. BIERRING, of Des Moines, Iowa, president of the American Medical Association, was the guest of honor at a dinner on September 4, sponsored by the Los Angeles County Medical Association.

THE University Award granted by Rutgers University for distinguished services was presented on September 18 to Albert E. Meder, associate professor of mathematics at the New Jersey College for Women.

DR. EUGEN FISCHER, professor of anthropology at Berlin, has been awarded the Rudolf-Virchow plaque.