NOBEL PRIZES, PEACE AND PROGRESS OF SCIENCE

C'est l'ignorance qui sépare les hommes et la science qui les rapproche. PASTEUR.

THE recent celebration at Amsterdam of the semi-centennial of Van't Hoff's celebrated memoir on stereo-chemistry, the first of the scientific achievements which earned him in 1901, at the zenith of his career, the Nobel prize in chemistry, brought back to mind the address with which Van't Hoff opened the biennial meeting of Dutch scientists at Amsterdam in 1894. Van't Hoff compares the scientific advances made by the different nations, taking as his starting point a study by de Candolle, a Swiss botanist of French descent (1806–1893) who enumerates for each country at a given time the number of scientists who enjoy great reputation not only at home but also in foreign countries. His criterion is the distinction of being elected a member of distinguished foreign societies of learning. If one compares the numbers thus obtained with the total population of each country certain percentages are obtained and the following order results:

	1749	1789	1829	1869
(1)	Switzerland	Switzerland	Switzerland	Switzerland
(2)	Holland	Holland	Scandinavia	France
(3)	Scandinavia	Scandinavia	France	Germany
(4)	France	France	Germany	England
(5)	England	Spain	England	Scandinavia
(6)	Italy	Italy	Holland	Belgium
(7)	Germany	Belgium	Italy	Holland
(8)	Spain	United States	Belgium	Italy
(9)	Russia	England	Hungary	United States

This method is very fair since it takes up the scientists in the list of their time, for, as Van't Hoff remarks, famous names become gradually smaller, especially in natural sciences, where each succeeding discovery overshadows what precedes.

The remarkable thing about this table is that the small countries top the list, the larger countries with one exception, where France takes second place, being relegated to third and lower places.

A recent compilation in SCIENCE (January 30, 1925, p. 117) by F. Cajori, who attacks the problem from another angle, leads to similar results. Cajori bases his conclusions on the third volume of Poggendorff's Handwoerterbuch which gives the names of research men and the titles of their papers (for the exact sciences) from 1858 to 1883. Computing the number of scientists for every million of population (in 1870) we find that around 1870 the standing of the different nations was in the order: Switzerland, Holland, Germany, Sweden, England, France, Austria, United States, Italy and Russia.

It occurred to the writer that in the awards of the Nobel prizes, the highest recognition that can be given to any scientist, we have a suitable standard by which we can measure the scientific standing of the different nations during the past 25 years.

If we confine ourselves to natural sciences only (physics, chemistry and medicine) to make comparison with de Candolle's and Cajori's results possible, we see that in number of prizes Germany heads the list with 24, followed by France (12), England (11), Holland (6), Scandinavia (6) [divided as follows: Denmark (3), Sweden (3), Norway (0)], United States (4), Switzerland (2), Austria (2), Canada (2), Belgium (1), Spain (1), Italy (1) and Russia (1).

Dividing again by the number of inhabitants (in 1910) we find the following order: Holland, Switzerland, Scandinavia, Austria (assuming six million inhabitants for what is now the republic Austria), France, Germany, Canada, England, Belgium, Spain, United States, Italy, Russia.

The rôle of the small countries in the commonwealth of nations in the light of the foregoing statistics is strikingly illustrated. On a percentage basis Switzerland, Holland and Scandinavia have, time and again, contributed more to the progress of science than any other country and the fact that these small countries have enjoyed undisturbed peace over longer periods than their neighbors is not without significance. That Holland was chosen for the seat of the International Court and Switzerland for permanent residence of the League of Nations was nothing but a universal recognition of the importance of these small nations as natural traits d'union between the large, powerful and often antagonistic countries surrounding them. If we accept Pasteur's dictum that it is ignorance that separates the peoples of this earth and science that brings them together, then the exponents of Scandinavian, Dutch and Swiss science by their knowledge of the language and the progress of science in other countries can lay claim to a large share in the promotion of peace and progress throughout the world.

H. S. VAN KLOOSTER
RENSSELAER POLYTECHNIC INSTITUTE

SCIENTIFIC EVENTS

THE SEVENTH MEETING OF THE INTERNATIONAL COMMISSION OF EUGENICS

THE September number of *Eugenical News* gives an account of the annual meeting of the International Commission of Eugenics which was held in the rooms of the Royal Society, Burlington House, London, on July 14 and 15, under the presidency of Major Leonard Darwin. There were present the secretary-treasurer, Dr. A. Govaerts, besides the assistant secretary, Mrs. C. B. S. Hodson. Other members of the commission were: From Belgium, Dr. F. Ensch; from Denmark, Professor W. Johannsen; from France, M.

Lucien March; from Great Britain, Sir Bernard Mallet; from Italy, Dr. Corrado Gini; from Netherlands, Dr. Marianna A. van Herwerden and Dr. G. P. Frets; from Norway, Dr. Jon Alfred Mjøen and Professor Collin; from the United States of America, Dr. C. B. Davenport.

Business was conducted on August 14 and 15. The commission was entertained at lunch by Major and Mrs. Darwin on both days. On the afternoon of the fourteenth a visit was made to the Zoological Garden of the Zoological Society of London and delegates were entertained at tea by Professor E. W. MacBride and Mrs. MacBride. On the afternoon of the fifteenth the MacBrides entertained the commission at their house. In the evening Dr. J. Mjøen gave an address at the Royal Society on "Inheritance of the elements of musical ability."

The commission voted to change its name to the "International Federation of Eugenical Organizations." The rules of the commission were altered so as to permit a possible fourth member from a country. It was decided to cooperate with the League of Red Cross Societies by appointing as representative M. March. It was also voted to authorize the president to call conferences at the time and place of any meeting of the federation. Dr. van Herwerden's proposition for standardization of pedigree charts was considered and Drs. van Herwerden and H. H. Laughlin were constituted a committee to arrange for the publication of these standards. Professors E. Pestalozza and Cesare Artom were nominated to membership in the commission by Professor Gini as representatives of the Eugenical Society of Italy. Dr. Gini brought up for discussion the matter of synoptic publications on eugenics from each of the different countries, for which service he has secured a publisher. The matter of registration having been urged by Dr. Mjøen, a committee on registration was appointed. Professor Collin made a report upon biosociology and the question of the rise and decline of nations. The matter of the place of the next meeting of the commission was left undecided as between Philadelphia and Paris.

THE EXPOSITION OF CHEMICAL INDUSTRIES

THE Exposition of Chemical Industries will be held from September 28 to October 3 in the Grand Central Palace, New York City. Last year this exposition was not held. It is expected that the 1925 exposition will offer more to chemists and chemical engineers in the line of new equipment, new methods and new materials than any previous exposition.

Of great interest among the new features arranged for the exposition will be the court of chemical achievement, designed to bring together in one great group the outstanding developments of recent years in chemical processes, products, instruments and equipment. For the honor of being awarded a place in this muster of eminent achievement there were hundreds of applications from all parts of the country, and the selections made during the past week by the approval committee of the American Chemical Society are of interest to the chemical industry. Since no foreign products will be admitted to this court of honor, the display will be a complete epitome of the recent progress of American chemistry, giving the public in general a clear idea of what constitutes the most important and meritorious advancements in this line.

Several hundred different products will appear in this exhibit. The United States Bureau of Chemistry, for instance, will show the method it has developed for the fumigation of grain against weevils; a series of by-products from corncobs and several other involved technical processes. The U. S. Chemical Warfare Service has had six of its developments honored by selection, including devices for producing screening smoke; tear-gas munitions, the scientific name for the latter being C. N. Chloracetaphenone; the chlorine treatment in respiratory diseases, and various new types of gas masks and canisters.

Low-freezing nitro-glycerine explosives and a smokeless shotgun powder are among the several products of the E. I. duPont de Nemours & Co., honored by selection. The method of commercial manufacture of metallic tungsten developed by the Fansteel Company of Chicago also finds a place on the list, and the American Protein Corporation gets in with its three new products—fibrin, haemoglobin and serum albumin.

Selenium flame proofing for insulating electric wire, an important advance in fire prevention, places Arthur D. Little, Inc., in the list of those honored by selection. Another single product, a method of impregnating fabric with rubber by spraying known as sprayed rubber, gives the U. S. Rubber Company a place in the Court of Honor. The Bakelite Corporation's product of the same name has been selected, as well as the Corning Glass Company's pyrex ware, and the Bausch & Lomb Optical Company's optical glass. Two hundred and fifty-nine chemical products of the Eastman Kodak Company are considered as achievements, but because of the large number the committee has not yet made the list public.

NATIONAL CONFERENCE ON PHARMACEUTICAL RESEARCH

THE fourth annual meeting of the National Conference of Pharmaceutical Research was called to