DISCUSSION

THE USE OF AN INTERNATIONALLY UNDERSTANDABLE LANGUAGE IN SCIENTIFIC PUBLICATIONS AND IN CONGRESSES

ONE of the main facts impending on the normal development of all branches of scientific life is the utilization of numerous different idioms for the publication of research works. In Europe alone about twenty-five native languages compete in scientific publications; in Asia there are fewer at present, but their number will probably increase in the way of including new populations of that big continent into the circle of cultural progress.

A partial solution for the urgent problem of international linguistic understanding between scientists has been found in the insertion of short summaries written in one of the leading languages giving a résumé of the contribution of the author in his national idiom.

A further step has been made by specialized magazines and by sections in scientific journals which give information in condensed reports about all scientific publications of the world.

In international meetings the question is resolved by translators, who generally give short abstracts—and only rarely complete reports—about the works presented. These mentioned "solutions" represent a valuable contribution to the interchange of scientific problems, but they must be considered as palliative methods. As a matter of fact no "summary" and no "abstract" can reproduce exactly important details of determined reports.

From the point of view of the rationalization of valuable human energy it is obvious that this situation is the origin of an enormous waste of intellectual and material efforts, conditioned by a superfluous repetition of the same experiences and researches in various countries. The progressing intensification and specialization of scientific research work will increasingly complicate the problem of divulgating practical applications of valuable results on a world-wide scale.

There is only one radical remedy susceptible to change this situation described above—the creation of an international language for scientific publications and for research meetings. Everybody knows of the attempts to introduce a universal language. But "Esperanto," the most successful of all, though backed by a high idealistic conception, gave only modest practical results. In my opinion, the proclaimed aim can be realized much sooner if international understanding starts in the field of the scientific research work. Once adapted there the extension of a world-wide understandable idiom to other branches of human life would follow progressively.

As an eventual intermediary language there can be mentioned Latin, one of the so-called living idioms, or an artificial language, such as Esperanto. As a biologist, I am personally more inclined (as certainly also others are), to oppose the introduction of any artificial language rooting in a multitude of native tongues and lacking therefore in the organic development—so well it may be elaborated.

Better founded seems to me the utilization of Latin or of one of the living idioms, specially of the English language. In favor of this thesis the following facts may be remembered: The existence of a complete scientific terminology, the divulgation of the English idiom all over the world and the relative small value of grammatical rules.

As to the use of Latin it may be considered as a favorable fact that this language can not hurt the national feelings of any people.

Naturally each intermediary language can enumerate reasons pro- and contra- its application on an international scale. It seems to be the task of an International Commission, composed of representatives of the theoretic and of the practical science branches, to weigh out the advantages and disadvantages of each of the proposals presented.

If I consider as advisable to present by an intermediary language scientific publications, reports of the activity of scientific societies, discussions on international meetings, I include the right for each participant nation of orientating as before scientific writing in their respective national idioms.

The translation of standard works—as in the chemical branch, "Beilstein, Handbuch der organischen Verbindungen"—remains in charge of this International Commission, which has to be divided into sections corresponding to the various branches of scientific life. Special international agreements have to assure the adequate interpretation of the copyright law. A further task of this institution should be to establish a uniform scientific nomenclature.

The object of the present contribution is to suggest that the American Association for the Advancement of Science may take up this problem as a matter of discussion. The present circumstances seem to favor the elaboration of preliminary bases of an international scientific language, for the moment nears when all human beings can newly contribute to the construction of a better world. No doubt the utilization of an idiom understandable all over the world would represent a valuable contribution of science to the

establishment of better relations between all nations and constitute a real progress of our civilization.

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THE NATURAL SCIENCE SOCIETY OF CHINA[1]

THE following letter, dated January 24, has been addressed to the American Association for the Advancement of Science:

We learned with great admiration and pride the splendid part the members of your Academy have played in the present war against fascism and barbarism. Our country and especially the cultural institutions have suffered deliberate and wanton destructions from the hands of the Japanese fascists during the present invasion. In spite of this, we are endeavoring to do our best to serve our country and the noble cause of our allies with the meager equipments and literature that were left to us. We sincerely believe that science and democracy are indispensable in our modern world, but science without democracy means fascism and Hitlerism and democracy could not function efficiently and smoothly without scientific knowledge and the scientific means of production to satisfy the cultural and material needs of the masses. We further believe that the cooperation and collaboration of the scientific workers of the world will help us to gain a quick victory and will also facilitate the laying down of the foundation of permanent peace immediately after the war. In order to do our modest part towards the goal of international scientific cooperation we have compiled a paper called "Acta Brevia Sinensia" in which the research activities and the recent news of the various institutions of our country are reported at definite intervals, and at the same time we are preparing to issue another paper, the main purpose of which is to print scientific news and abstracts of scientific papers of our allies. In order to make it a success we, therefore, beg your kind cooperation, and hoping you would kindly supply us the scientific news and abstracts of papers of your country.

Enclosed herewith is a copy of a short account of our society and our activities. As we are late comers in the realm of science and technology we should be very thankful if you would kindly favor us with your words of wisdom.

May this letter serve as a messenger boy to bring to you our hearty greetings and warmest congratulations for the patriotic works so wonderfully performed in the present struggle against the enemy of science and humanity.

With New Year's greetings,

CHANG-WANG TU,
(Secretary for Foreign Relations)

An account is enclosed giving a list of the activities of the society, which reads:

1. *History and Aims:*

The society was established in 1927 with a view to achieve the following: (*a*) to spread scientific knowledge to the masses; (*b*) to apply scientific and technological knowledge to national reconstruction; (*c*) to promote scientific research; (*d*) to facilitate scientific cooperation.

2. *Organization:*

There are thirteen branch societies established in various districts of free China and three additional ones in Europe and America. The members of the society total 1,800. Under the head office at Chungking there are four committees: (*a*) Committee for General Affairs; (*b*) Committee for Research and Culture; (*c*) Committee for Organization; (*d*) Committee for Social Service.

3. *Activities:*

The following works of importance have been carried out by the society since its establishment:

(*a*) The publication of the *Scientific World.* Twelve volumes have been issued since 1932. This magazine is a very popular scientific journal in China.

(*b*) The organization of scientific expeditions. Since 1937 two scientific expeditions have been sent out by the society to explore the natural resources, to study the physical and bio-geography of provinces such as Sikang, Kansu and Ningsha. The results of these expeditions are contained in the reports published afterwards.

(*c*) The publishing of scientific books concerning the problems of national defense. The following books are already in press: i. "On the Principles of Flight"; ii. "Principles of Aeroplane Construction"; iii. "Explosives"; iv. "Precaution Against Poisonous Gases"; v. "Ballistics." In addition, there are some twenty volumes under preparation.

(*d*) Public lectures and radio talks on science. Public lectures and radio talks on scientific subjects have been given periodically to the public in various cities of China.

(*e*) The publication of "Acta Brevia Sinensia." This paper intends to convey the scientific works done in China to the scientific workers of the democratic world. The society is planning to publish a bulletin to print the scientific news and achievements of our allies with the cooperation of the leading scientific societies of the democratic world.

(*f*) Future projects. The members of the society feel that they should devote more time to the society and the masses, so plans have been drawn accordingly. The more important ones will be carried out as soon as we have the money, and they are: (i) to establish a "Science Museum" and a "Science Library"; (ii) to organize an institute for scientific service; (iii) to publish a journal for original research work, etc.

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[1] Transmitted by the China Section of the Science, Education and Art Division of The Department of State, March 1, 1944. Translated from the official letter in Chinese.

SOVIET BIOLOGY

THE eulogy of Soviet biology published in a recent issue of SCIENCE[1] did not present a realistic survey of the present situation. The author did not discuss the most significant trend of biological research in the

[1] L. C. Dunn, SCIENCE, January 28, 1944.