REPORTS

INTELLECTUAL COOPERATIÓN AND BIOLOGY

SINCE its early days, the League of Nations has devoted attention to problems concerning the organization of intellectual life, apart from the political activity with which it is more commonly associated in the mind of the general public.

In 1922 an International Committee on Intellectual Cooperation was especially established for this purpose, composed of well-known men and women from the world of science, art and literature, and of which the late Professor Lorentz, the world-famous Dutch physicist, was chairman.

The position of this committee was considerably strengthened by the foundation in 1925 of the International Institute of Intellectual Cooperation in Paris, which provided a permanent international body recruited from specialists in the various branches of art and science for carrying out the resolutions of the committee and preparing the ground for future action.

Problems of scientific bibliography were among the first to engage the attention of the international committee and continue to occupy an important place in

The inquiry was first directed to the analytic bibliography of current literature in the case of the differ-

the activity of the scientific section.

ent sciences with a view to obtaining better results from the general bibliographical work which has been hitherto carried out in a disorderly and uncoordinate fashion in the different countries.

Having dealt with the physical and economic sciences, the question of biological bibliography was placed on the agenda of the international committee.

It should be pointed out that the technical difficulties encountered in the different sciences are practically the same and therefore the methods previously adopted for the other sciences have been applied in the case of biology.

The first step was to convene a meeting of experts, composed of editors of reviews especially devoted to the biological sciences. This meeting was held at the International Institute of Intellectual Cooperation on April 7 and 8, 1927.

The following were present:

Miss Bonnevie, professor of zoology at the University of Oslo, member of the International Committee on Intellectual Cooperation.

M. Apstein, *Zoologischer Bericht.*

M. Baur, *Zeitschrift für induktive Abstammungs- u. Vererbungslehre.*

M. Fedde, *Botanischer Jahresbericht.*

M. Kerkhof, Reichszentrale für Wissenschaftliche Berichterstattung.

Mr. Hutchinson, *Biological Abstracts.*

M. Fauré-Fremiet, *Année Biologique.*

M. Mesnil, Institut Pasteur.

Mr. Chalmers-Mitchell, *Zoological Record.*

M. Kooiman, *Resumptio Genetica.*

M. Racovitza, professor at the University of Cluj, correspondent of the International Committee on Intellectual Cooperation.

M. Strohl, *Concilium Bibliographicum.*

The above committee considered the actual problems of biological bibliography from many different aspects and passed the following resolutions concerning the methods to be employed in attempting a practical solution:

I. The committee of experts recognize that to obtain access to the literature is one of the greatest difficulties in the way of biological bibliography.

They are of the opinion that a great step in intellectual cooperation would be the reception, by those responsible for the preparation of abstracting and indexing publications, of separata (with the original pagination) of each memoir in scientific publications.

They recommend that steps should be taken, under the authority of the league, to induce the editors of journals publishing original work in biology to provide a limited number of separata of each paper sufficient to supply a copy to each bibliographical authority agreed upon by the conference, or its successors, as of international value.

They further recommend that an international organization (working through national bureaus if found more practical) be founded to receive the separata and distribute them to the appropriate bibliographical authorities.

II. The conference of experts are of the opinion that it would materially assist abstracting publications if an author's abstract were printed with every published paper.

They have been informed that the editors of some journals will not accept papers unless the authors have provided such an abstract, and they recommend that all editors should be invited to conform to this practice; such abstracts should average three to five per cent. of the original paper.

III. The committee of experts has considered a set of periodicals dealing with biological bibliography and has made a preliminary classification of them into groups, with the object of examining the possibility of cooperation and mutual help.

The classification is as follows: General biology; zoology; botany; systematics—zoology; systematics—botany; genetics; anatomy and embryology; microbiology and parasitology.

The following methods of cooperation are contemplated for each of these groups:

(1) Exchange of final proof-sheets (printed if possible on one side of the paper only), or of the publications themselves with rights of reproduction and translation, under conditions which might vary in the different cases.

(2) Separate sale of the bibliographical parts

(printed if possible on one side of the paper only) of those periodicals which also contain original matter.

IV. The committee of experts has charged certain of its members with the duty of getting into touch each in his own country with those most competent to prepare the details of cooperation.

The results of these negotiations shall be communicated to the institute, which shall make use of them in summoning first those interested in each separate group, and afterwards for the reunion of the full conference, which will be necessary before the attempt to bring into operation the proposed cooperative arrangements.

V. The conference of experts consider that a universally adopted system of abbreviations of the titles of periodicals would be an advantage which would outweigh the temporary inconvenience of changing the many existing systems.

They have been informed that bibliographical experts belonging to the British Museum have considered current systems and have devised a system which they have applied to the titles of 24,000 periodicals and that this list of abbreviations has been printed in Volume 2 of the World List of Scientific Periodicals.

They recommend that at their next meeting the possibility of the universal adoption of this system should be taken into favorable consideration.

These resolutions were approved by the international committee in July and by the Plenary Assembly of the league of Nations last September, and the institute was instructed to take the necessary action in order to put them into force.

It now remains to be seen whether biologists in general and in particular the editors of biological journals are sufficiently interested in this undertaking to make it a success.

As appears from the resolutions, the experts were of opinion that the different subdivisions of biology should be treated separately and the question now is to decide which of these subdivisions can most easily be made the subject of a common agreement, so as to concentrate on it in the first place.

Another aspect of the problem, which could not be dealt with at the time of the experts' meeting, is the extent to which our scheme should be altered in view of the publication of the *Biological Abstracts* in the United States, because before the meeting of the committee only one number had appeared.

The International Institute will welcome suggestions from the editors of biological reviews concerning the biological problems referred to in the experts' resolutions and will be glad to avail itself of their recommendations and collaboration in pursuing this work.

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SECTION FOR EXACT AND NATURAL SCIENCES AT THE INSTITUTE OF INTELLECTUAL COOPERATION

SPECIAL ARTICLES

VARIATION IN SOLAR RADIATION

THE Lick Observatory Bulletin No. 401 carries a series of measurements of the brightness of the planet Uranus and of the satellites of Jupiter by Stebbins and Jacobson. Similar measurements were made by Stebbins in the year 1926, also at the Lick Observatory. They employ a potassium cell, most sensitive in the blue, at approximately 4,600 Ångstroms.

Measurements were made on about twenty nights of August and September, 1926, and on about fifty nights in July, August and September, 1927. During these intervals the Smithsonian Institution maintained daily observations of the solar constant of radiation at its station on Mount Montezuma, in Chile. It is interesting to compare the two series (omitting dates not common), to see what they may indicate as to the variation of the sun during these intervals.

In making such a comparison, one might proceed with the theory that the sun is equally bright at all parts of its surface, and, if it varies, it varies as a whole in brightness. But many indications lead us to the other view that although, associated with the march of solar activity revealed in sun-spots, there are changes of the general brightness of the whole solar surface, yet, just as the solar corona and the solar surface present much detail to the telescope, so the sun as a source of radiation presents inequalities of surface brightness turned toward the different directions in space. Accordingly, it seems best to take into account the heliographic longitude of the satellites and the planet observed by Stebbins, and also to consider the time occupied by light in traveling from

OBSERVATIONS OF 1926

Dates Montezuma	Dates Lick	Departures: Tenths per cent. Montezuma	Departures: Tenths per cent. Lick	Difference—Montezuma from Satellites
August				
24	24	−1	+ 1	2
25	25	−1	+ 1	2
27	27	+4	− 5	9
28	28	−1	− 2	1
30	29	+2	−10	12
32	31	−2	+ 1	3
Sept.				
2	1	+1	− 2	3
3	2	−2	− 2	0
4	3	−1	0	1
5	4	+2	− 4	6
6	5	+2	+ 5	3
7	6	+4	+ 2	2
8	7	−1	− 1	0
9	8	−2	+ 7	9
		—	—	—
	Means:	2	3	4