

the old paths. The department of biology having been founded by Dr. John was among the first to suffer. It was summarily abolished, the announcement being made without previous warning only the day before commencement. From a professor of zoölogy and one of botany at the beginning of the last college year, the instructional force is reduced to a single tutor, who is expected to give instruction in the elements of both sciences.

THE Board of Trinity College, Dublin, while declining to grant permission to women to attend lectures and examinations at the College, have offered, on certain conditions, to conduct examinations for special certificates.

THE Regents of the State University have voted to confer the university degree, M. D., only after one year's post-graduate study subsequent to receiving the degree of bachelor or doctor of medicine from some registered medical school, and only on candidates who have spent not less than four years' total study in accredited medical schools.—*Medical Record*.

PROF. J. W. JUDD has been appointed successor of Huxley as Dean of the Royal College of Science, South Kensington.

THE chair of surgery in the University of Breslau, vacant through the death of Prof. Trendlenburg, which was declined by Prof. Mikulicz, has now been offered Dr. Schede, of Eppendorf General Hospital, Hamburg.

DR. RUDOLF METZNER, of Freiburg, has been called to the chair of physiology in the University of Basel, in the place of Professor Miescher, who has retired.

DR. EMIL YUNG has been made professor of zoölogy and comparative anatomy in the University of Genf as successor to Karl Vogt.

DR. HANS PECHMANN has received a call to a professorship of chemistry in the University of Tübingen.

CORRESPONDENCE.

THE NEW BIBLIOGRAPHICAL BUREAU FOR ZOÖLOGY.

ON January 1st, 1895, there will be established in Zurich, Switzerland, an International Bibliographical Bureau for Zoölogy and comparative Anatomy. This Bureau is being organized on the broadest foundations and will be strictly international in character. There are already a number of committees in the more important countries of the world, and it is to be hoped that the organization will soon be entirely complete. In this country there is a committee nominated by the 'Society of Naturalists.' In France the organization is quite complete, and may serve as a model of what we still need in this country. In the first place there is an influential central committee in Paris.* In connection with this body is a corps, 'Associate Members.' The function of the 'Membres Associés' is to exercise direct local influence in such emergencies as require it. For example, it is proposed to issue an appeal to all publishing societies, asking them to send in to the central Bureau their publications for the purpose of recording the zoölogical observations which they contain. From the very outset of our undertaking it became evident that scientific societies would in general be glad to respond to such an appeal, but that there were considerable difficulties in the way of relying unconditionally upon this coöperation. A preliminary canvass was undertaken among the leading Paris societies, which showed conclusively that both learned societies and publishing firms were most willing to coöperate, but that they would have to have the matter properly brought to their notice by persons devoted to the movement; a mere general appeal might easily go unnoticed, and thus important works never reach the Bureau.

* See the 'Rapport de M. Bouvier, Mem. Soc. Zool. de France,' 1895, 1er fasc.

The 'Membres Associés' undertake to look after this matter and see that every publication of their district is brought to the knowledge of the Bureau. The 'Associés' are 21 in number, and have already promised to do all in their power to accomplish their mission.

In addition to the 'Associés,' there is a body of 'Correspondants' whose duty is to record such publications as are inaccessible in any Swiss or Leipzig library. The 'Correspondants' are *few* in number and are all persons able to give considerable time to the work. A number of competent persons have kindly offered to do both classes of work in this country, and we can at least assume that the same generosity will be shown by publishing societies and publishers.

It must be remembered that it is not proposed to depend wholly upon these agencies for obtaining the material on which the work of the Bureau will be based; but that this organization is to supplement the more ordinary means of consulting the literature, *i. e.*, use of large libraries. Not only will the Bureau have access to works in the Swiss and Leipzig libraries; it will also have at its disposition the library of the Zoological Station of Naples. This arrangement is due to the generous coöperation of Geheimrath Dohrn, who, in addition to making an annual appropriation towards the support of the Bureau, has offered to have sent through the Bureau those works of which we may stand in need.

In order to treat adequately the Bohemian, Hungarian, Polish and Russian publications, special 'Sub-bureaux' are being organized. In Russia this is being provided by the Russian National Committee and by Professor Mitrophanow, who has shown remarkable activity in this connection. In Galicia similar steps have been taken by Professors Hoyer, Sr. and Jr., and a Sub-bureau will be organized at Krakow.

Turning now to the system of recording,

let it be noted, at the outset, that the staff of the Bureau will consist of zoölogists rather than of librarians. This fact permits it to undertake a task of immense value to the investigator, *viz.*: that of basing the subject index upon the text of the memoirs, instead of upon the mere title. I do not need to dwell upon the value of this feature. The insufficiency of the title for such purposes is familiar to every worker. In a previous note, I have already given a case from my own personal experience, in which the titles were absolutely valueless to the bibliographer of the question I then had in hand. An idea of the defectiveness of our existing bibliographical means can readily be obtained by anyone who will take the pains to compare the bibliographies found at the end of a number of special memoirs with the lists given under the corresponding headings of the best of our present catalogues. The classification given by the Bureau will then be based upon the *text* and will use the individual observations—the paragraph—as a unit, and not the paper as a whole. Furthermore any incidental observations, though wholly different from anything in the title, would be brought out by the Bureau.

The publications of the Bureau will consist in two principal editions: (1) a fortnightly bulletin and (2) a card catalogue. The morphological titles will also be reprinted annually by the 'Zoologischer Jahresbericht,' and indexed according to authors. It would be desirable if some similar arrangement could be made for systematic zoölogy; but this has not been provided for. It was our hope that the 'Zoölogical Record' might be transformed, so as to form together with the 'Zoologischer Jahresbericht' a complete annual record for zoölogy, but it seems unlikely that its directors could accept such an arrangement. It must not be forgotten by those who have urged this upon us, that the Zoölogical Record is pub-

lished with considerable pecuniary loss, and that our Bureau is unable to offer any adequate guarantee that the loss would not be just as great, unless the guarantee of a continental publisher would suffice.

The Bulletin will be divided into a series of chapters, including 1, a general part, and 2, a division into systematic groups. Under each heading will be placed not merely such works as deal exclusively with the matter indicated, but also—as cross references—any papers containing incidental observations in regard to it.

The Cards will be issued simultaneously with the Bulletin and will be of the standard Library Bureau size. They will be essentially Author's Cards, but will also bear classificatory symbols of such nature that they can readily be placed in a subject index by persons unfamiliar with zoölogy. Three sets of symbols will be used, each indicating a distinct system of classification—systematic, morphological and faunistic—and all based upon a study of the text.

MAURER, F.

XIII., 7.

1894 b. Die ventrale Rumpfmuskulatur der anuren Amphibien. *Morph. Jahrb.*, Bd. 22, p. 225-262, Taf. 6, 7.

[Entwicklung—*Rana*; Anatomie—*Dactylethra*, *Ceratophrys*, *Bombinator*; Vergleich mit Urodelen.]

It is proposed to receive eventually subscriptions to the cards relating to *limited topics*. A student of a special question could then be informed at once of the appearance of each publication touching his particular field, and thus be saved much of the mechanical labor of looking through the journals for the papers which interest him. For the present, however, larger divisions only of the catalogue can be so offered.

I have already spoken of the generosity of Geheimrath Dohrn; the further support which the Bureau will receive consists in

part in the establishment of sub-bureaus at the expense of the nations concerned, *i. e.*, —Russia, Poland—in part in the voting of money grants towards the maintenance of the central Bureau: *e. g.*, the Swiss Federal Board of Education, the cantonal and town Boards of Zürich, a subscription under the 'Société Zoologique de France.' In this country a subscription of \$250 in addition to what has already been secured is all that is asked for. It does not seem too much to expect that this sum can be raised in the country as a whole as soon as the learned societies meet again in the fall.

In conclusion, let me say a few words in regard to the relations of our undertaking to that of the Royal Society. The organization of the Zoölogical Bureau was already well under way and several committees had been appointed when the circular of the Royal Society came to hand. On receipt of this circular we at once made inquiry of the Secretary of the Society, Professor Foster, in regard to the probable attitude of the Royal Society towards our undertaking, and were assured that the Royal Society would certainly prefer to absorb, or make one with it, all existing enterprises, rather than to try to rival them with a new one. A more definite answer was at that time impossible, nor can it be given at present. It was, however, all that we could desire, for this was precisely the great difficulty of our task, *viz.*: that it involved too great personal sacrifices for it to be possible to count with certainty upon its being given us through long periods of time. The Bureau is therefore being organized provisionally for the period of 5 years, so that the work can then be continued under the auspices of the Royal Society, provided the Society succeeds in realizing its project. On the other hand, if the larger plan fails, then the Bureau must live on its own resources. This is surely a wiser course than to abandon the undertaking and make useless the

sacrifices already made; in any case the literature for the period from 1896 to 1900 will have been well indexed and an important experiment in view of the Royal Society's undertaking will have been tried.

I should like finally to remind authors and publishers that they can greatly aid in this work by preparing short *résumés* of their publications as recommended in these columns by Professor Bowditch.

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GREAT NECK, L. I., NEW YORK.*

SCIENTIFIC LITERATURE.

Le pétrole, l'asphalte et le bitume, au point de vue géologique. Par A. JACCARD, professeur de géologie à l'académie de Neuchâtel. Ancienne librairie Germer Baillière et cie. Paris. 1895.

This work forms one of the volumes of the Bibliothèque Scientifique Internationale and has been published since the author's death, on the 5th of last January.

The task of reviewing the work of one no longer living imposes upon the reviewer great care that no injustice shall be done the author, either as regards his intention or accomplishment. A very careful perusal of the work has shown that the author was a very close observer of nature, and a man of very positive convictions within the range of his own observations, yet in his final conclusions not too confident of his own infallibility, although at times, along the line of argument that he maintains throughout the work, his language very closely approaches upon dogmatism. He devoted his life to the study of the geology of the Jura, and that portion of France and Switzerland which includes the celebrated deposits of bituminous limestone and sandstone lying in the upper valley of the Rhone, from Neuchâtel to Pymont and beyond. In this work he has included, not

only the results of his own observations, but those of many other writers from the earliest mention made in scientific literature to the present time. I do not question that in respect to this particular department of the general literature of bituminous substances, or, more properly speaking, of bitumen, that this work is without a rival the most complete that has been devoted to the scientific discussion of this subject.

I think it is to be regretted that the author attempted a more ambitious work, and sought to reach general conclusions that, beyond the horizon of his own observations, were based upon the work of others made at various dates and under various conditions, which M. Jaccard appears to have accepted without much discrimination. He further allowed himself to be confined exclusively to works written in the French language which, embracing, as they do, many of the most valuable original memoirs extant, would at the same time exclude all access to the original works of American, English and German writers on the subject. As an illustration he quotes at this date (1895) the conclusions reached by M. Daubré in his 'Rapport du jury de l'exposition internationale de Paris, 1867,' in relation to the petroleum of North America. This paucity of information written in the French language, and injudicious use of French authors who have discussed the subject second hand, renders the work of very little value so far as it relates to American bitumen.

Again, he devotes a considerable portion of the work to the discussion of the 'Origin of Bitumen,' a subject that cannot be discussed from the 'point of view' of geology alone, as it involves a knowledge of both the chemistry and technology of bituminous substances. The apparent lack of knowledge of the details of the chemistry and technology of bitumens has led to many misstatements and invalid conclu-

* Address after September 3d, care of Brown, Shipley & Co., London, E. C.