as many papers as are annually read before the Association. It is evident that the Association cannot represent the whole of American science while such important developments are ignored. Only a small percentage of the members of these societies are fellows of the Association.

Indeed, we must admit that a large proportion of those most actively engaged in advancing science in America do not attend the annual meetings, and many are not even fellows of the Association. We may appeal to the public spirit of these men of science and probably with success. It would, however, be far better to make the meetings so fruitful that each would like to attend, and, if possible, to give those unable to attend some return for membership in addition to the annual volume of proceedings. Election as fellow should be an honor that no one would decline. The fellows should not be elected exclusively from the members, but those who are doing the most for the advancement of science in America should be the fellows of the Association. It would probably be desirable to limit the number of fellows to one thousand and to fill vacancies each year as they occur. As soon as the fellows of the Association were acknowledged to be the thousand leading men of science in America, election would be an honor only less in degree than election to membership in the National Academy of Sciences. In this case an added interest would be given to the annual meetings. With the National Academy as the 'upper house' and the American Association the 'lower house' of American science a great improvement in organization would be effected. It would be a natural courtesy for the Academy to elect its members from the Association and for the Association to elect its President from the Academy. We may view with great satisfaction the fact that the President of the National Academy is this year President of the Association.

In conclusion, we may once more urge the importance of attending the Detroit meeting of the Association and of proceeding thence to Toronto. Those taking part in these meetings will receive a stimulus in scientific activity, and by making the meetings noteworthy will contribute greatly to the advancement of science in America. Questions affecting the future of the Association will be considered at Detroit, and arrangements will be made for adequately celebrating the fiftieth anniversary of the Association. There is no doubt but that during the next fifty years science will be the leading factor in the progress of the world, and probably more depends on America than on any other country. The American Association for the Advancement of Science has great opportunities and great responsibilities.

THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

The International Bibliographical Conference held in London, July 14–17, 1896, was the most important step ever taken toward international cooperation in scientific and bibliographical work. This account of the meeting is derived, unfortunately, not from personal knowledge, as I was not present. I have had, to aid me in its preparation, the two official publications

of the Conference, the so-called Acta and a verbatim report of the proceedings issued by the Royal Society, as well as information derived from the United States delegates, and the official correspondence of the Smithsonian Institution.

Before taking up the Conference itself, it might be well to consider briefly the history of the movement toward an international catalogue of scientific works. It is no small satisfaction to us that the incentive to this work came from America. Professor Joseph Henry first conceived a plan for a scientific bibliography in 1854, and when he sought the cooperation of the British Association for the Advancement of Science, the subject was referred to a committee consisting of Fellows of the Royal Society who approved the suggestion. Ten years later the Royal Society aided by government grant undertook the publication of a catalogue of scientific papers since 1800, 11 volumes of which have now appeared. In the preface to the first volume we read: "The present undertaking may be said to have originated in a communication from Dr. Joseph Henry, Secretary of the Smithsonian Institution, to the meeting of the British Association at Glasgow in 1855, suggesting the formation of a catalogue of philosophical memoirs."*

*"A communication from Professor Henry, of Washington, having been read, containing a proposal for the publication of a Catalogue of Philosophical Memoirs scattered throughout the Transactions of Societies in Europe and America, with the offer of cooperation on the part of the Smithsonian Institution, to the extent of preparing and publishing, in accordance with the general plan which might be adopted by the British Association, a Catalogue of all the American Memoirs on Physical Science, the Committee approve of the suggestion and recommend that Mr. Cayley, Mr. Grant and Professor Stokes, be appointed a committee to consider the best system of arrangement, and to report thereon to the Council." (Rept. of the 25th meeting of the British Association for the Advancement of Science, held at Glasgow in September, 1855, p. LXVI.)

In March, 1894, the Royal Society issued a circular to learned societies throughout the world, which called attention to the fact that the catalogue of scientific papers was limited to periodical scientific literature, taking no account of monographs and independent books and that titles were arranged solely by authors' names. Further, that the catalogue was confessedly incomplete. The development of scientific literature had been so great and the need for a subject catalogue so apparent that the President and Council of the Royal Society appointed a committee "to inquire into and report upon the feasibility of such a Catalogue being compiled through International Cooperation." A circular embodying these statements was sent to learned societies in correspondence with the Royal Society and elicited very general and favorable response. At the same time the following letter was addressed to the Smithsonian Institution:

"MY DEAR PROFESSOR LANGLEY: The Smithsonian Institution is, on historical grounds, so closely connected with the efforts of the Royal Society in cataloguing scientific papers that I am directed to add to the circular letter herewith sent, a few words expressing the hope of the Committee of the Royal Society which has the matter in hand that they may have, in a special way, the assistance of your valuable body in coming to a decision on so important a question. Believe me, yours very truly,

[Signed] M. FOSTER,
Sec. R. S."

"This index of all the physical papers in the transactions of learned societies and in the scientific periodicals resulted from a letter addressed to the British Association in 1855, by the Secretary of this Institution, setting forth the advantages to science of such a work. The matter was referred to a committee of the Association, reported favorably upon, and recommended for execution to the Royal Society." (Smithsonian Report for 1867, p. 58.)

The matter occasioned much discussion both in this country and abroad. The circular was published in full in SCIENCE,* and there appeared in the same number a report of a committee of the Faculty of Harvard University to the University Council expressing its sympathy, making some suggestions and recommending that the corporation of Harvard University contribute a certain sum toward carrying out the enterprise.

Professor Henry A. Todd,† of Columbia University, made some suggestions in regard to a card catalogue of scientific literature with annotations. He proposed that the Smithsonian Institution should assume the leaderehip in America, and that publishers should be asked to cooperate.

Mr. W J McGee‡ discussed certain of the practical sides of the question, and announced that the Geological Society of America had concurred in the report of the Harvard University Council. The Franklin Institute, of Philadelphia, also expressed itself favorably.§

Doctor G. Brown Goode|| laid down a most careful plan of operations. He held that the catalogue should be international in name and scope, should be exhaustive within its own limits, and that it should be published in book form, as a card catalogue would, in his opinion, be too bulky. He also suggested a broad classification of science which, it may be said by way of anticipation, included economic science, mechanical science and engineering, philology and institutional history, all of which were excluded by the Conference.

Numerous other bodies responded favorably and many articles were written on the subject.

The next step in the matter was taken when the Royal Society issued a circular in August, 1895, containing a report made to the President and Council in July, 1895, by the Special Committee. This circular stated that more than one hundred replies had been made to the original circular and that in no single instance was any doubt expressed as to the value of the work proposed. The cordial letter of the Secretary of the Smithsonian Institution and the replies received from the United States were especially dwelt upon, and the holding of an international conference as a first step in the matter was recommended by many Societies.

Accordingly, on August 15, 1895, the Secretary of the Royal Society addressed a letter to the Marquis of Salisbury, Premier and H. M. Minister for Foreign Affairs, in which he reviewed the matter and pointed out the advisability of a conference in London looking to international cooperation. He suggested that such a conference be called by the British government and that certain governments named should be invited.

In pursuance of this suggestion, the Department of State at Washington (and it may be assumed that a similar course was followed with regard to other countries) received from the British Ambassador, in October, 1895, a copy of the letter of the Royal Society, with the expression, on the part of Lord Salisbury, of the hope that the United States government would be represented at the conference. This matter was referred by the Secretary of State to the Secretary of the Smithsonian Institution, who recommended that the United States government should take part and suggested that Dr. John S. Billings and Professor Simon Newcomb should serve as delegates for the United States, a recommen-

* N. S., Vol. I., pp. 182–184.

† SCIENCE, N. S., Vol. I., p. 297.

‡ SCIENCE, N. S., Vol. I., p. 353.

§ *The Library Journal*, Vol. XX., p. 172.

|| SCIENCE, N. S., Vol. I., p. 433 'Ideal Index of Scientific Literature.'

dation which was adopted. The conference was formally held at London, July 14–17, 1896.

With this brief introduction I will now give: (1) a list of the governments represented by delegates; (2) a condensed account of such portions of the debates as would seem to be of especial bibliographical and scientific interest; (3) for the sake of clearness, a recapitulation of all of the resolutions agreed to with the exception of such as related purely to matters of detail concerning the holding of meetings, and (4) the report of the United States delegates, together with official documents relating thereto.

The following delegates attended:

Austria.—Prof. Ernst Mach (Mitglied der Kaiserlichen Akademie der Wissenschaften, Vienna). Prof. Edmund Weiss (Mitglied der Kaiserlichen Akademie der Wissenschaften, Vienna).

Belgium.—M. H. La Fontaine (Membre de l'Institut International de Bibliographie, Brussels). M. Paul Otlet (Membre de l'Institut International de Bibliographie). M. de Wulf (Membre de l'Institut International de Bibliographie).

Denmark.—Prof. Christiansen (Universitet, Copenhagen).

France.—Prof. G. Darboux (Membre de l' Institut de France). Dr. J. Deniker (Bibliothécaire, Muséum d' Histoire Naturelle, Paris).

Germany.—Prof. Walther Dyck (Mitglied der K. Bay. Akad. der Wiss. zu München). Prof. Dziatzko (Direktor der Universitäts Bibliothek, Göttingen). Prof. Van't Hoff (Mitglied der K. P. Akademie der Wissenchaften zu Berlin). Prof. Möbius (Mitglied der K. P. Akademie der Wissenschaften zu Berlin). Prof. Schwalbe (Direktor, Berlin).

Greece.—M. Avierinos M. Averoff (Greek Consul at Edinburgh).

Hungary.—Prof. August Heller (Librarian, Ungarische Akademie, Buda-Pesth). Dr. Theodore Duka (Membre Academie Hongroise des Sciences, Buda-Pesth).

Italy.—General Annibale Ferrero (Italian Ambassador in London).

Japan.—Assistant Prof. Hantaro Nagaoka (University, Tokio). Assistant Professor Gakutaro Osawa (Medical College, Tokio).

Mexico.—Senor Don Francisco del Paso Y Troncoso.

Netherlands.—Prof. D. J. Korteweg (Universiteit, Amsterdam).

Norway.—Dr. Jorgen Brunchörst (Secretary, Bergen Museum).

Sweden.—Dr. E. W. Dahlgren (Librarian, Kongl, Svenska Vetenskaps Akademie, Stockholm).

Switzerland.—M. C. D. Bourcart (Swiss Minister in London). Prof. Dr. F. A. Forel (President du Comité Central de la Société Helvétique des Sciences Naturelles).

United Kingdom.—Representing the government: Right Hon. Sir John E. Gorst, Q. C., M. P. (Vice-President of the Committee of Council on Education). Representing the Royal Society of London: Prof. Michael Foster (Sec. R. S.). Prof. H. E. Armstrong, F. R. S. Mr. J. Norman Lockyer, C. B., F. R. S. Dr. Ludwig Mond, F. R. S. Prof. A. W. Rücker, F. R. S.

United States.—Dr. John S. Billings (U. S. Army). Prof. Simon Newcomb, For. Mem. R. S. (U. S. Nautical Almanac Office).

Canada.—The Hon. Sir Donald A. Smith, G.C.M.G. (High Commissioner for Canada).

Cape Colony.—Roland Trimen, Esq., F.R.S. Dr. David Gill, C.B., F.R.S.

India.—Lieut.-General Richard Strachey, R.E., F.R.S.

Natal.—Walter Peace, Esq., C.M.G. (the Agent-General for Natal).

New South Wales.—Prof. Liversidge, F.R.S.

New Zealand.—The Hon. W. P. Reeves (Agent-General for New Zealand).

Queensland.—Chas. S. Dicken, Esq., C.M.G. (Acting Agent-General for Queensland).

The verbatim report of the debates, which accompanied the introduction of the resolutions, is much too voluminous to give even in abstract, but it would seem worth while at least to epitomize a few of the more salient points in the discussion which took place.

The attitude of the Royal Society toward the whole subject was sketched at the opening of the meeting by Professor Armstrong. The Society, he said, had felt for a number of years that in publishing a catalogue of scientific papers "it was not doing nearly enough to supply the needs of scientific workers; that the production of a catalogue arranged only according to the authors' names was altogether insufficient, and that it was essential that much more should be done, and that work should be

done much more quickly. * * * The great object before us is to produce a catalogue available for use by scientific investigators throughout the world. It is not a mere bibliographical work that we are seeking to perfect."

An interesting discussion took place on the motion of Professor Michael Foster, "that each delegate should have a vote in the deciding of questions before the Conference." Professor Simon Newcomb stated that it was not inappropriate that he should second the resolution, inasmuch as the United States would apparently be among the nations placed at the greatest disadvantage by this method of voting. Professor G. Darboux, a member of the Institute of France, representing the French government, said that he had sought instructions upon this snbject, but had not received any; that in congresses of this sort votes were usually taken by nations and that if the other method was to have prevailed it should have been made known, so that more delegates could have been sent. General Ferrero, the Italian Ambassador at London, representing Italy, agreed that the observations of Professor Darboux were most important. He added, however, that with regard to questions which really are matters of science pure and simple it was the opinion of the delegates, not of nations, which was desired; while questions which were without the realm of science could readily be left to the governments to settle. In the question of classification, for example, there was no question of national interest; it was a question of science pure and simple.

Professor Möbius, representing Germany, said that the German delegates were sent by the German government or by learned societies to assist in the discussions, and to represent either the government or societies in order that they might determine in what manner they should participate in the work. He held, therefore, that they should take part as individuals, which was agreed to by Professor Edmund Weiss, representing Austria.

Professor Darboux accepted this explanation, remarking that the matter was cleared up in his mind that the meeting was not a diplomatic conference, but a congress of scholars charged to examine into the best methods of accomplishing a certain proposition, and that the final questions of finance and participation were to be referred to the respective governments. The motion was then unanimously agreed to.

Professor Armstrong moved "that it is desirable to compile and publish, by means of some international organization, a complete catalogue of scientific literature arranged according both to authors' names and to subject-matter." This was adopted, with the last clause reversed, to read "both to subject-matter and to authors' names," in accordance with the suggestion of Professor Forel, representing Switzerland. M. Otlet, one of the Belgian representatives, took the introduction of this resolution as the occasion for the presentation of a note on behalf of the Belgian delegates. This note was in the nature of a discussion of the entire subject of international bibliographical work, with special reference to the establishment of an office at Brussels some years previous. The introduction of this note occasioned some discussion with regard to the decimal system of classification. Opinions against its practicability were expressed by Professor Schwalbe, of Germany; Professor Heller, of Hungary; Professor Dziatzako, of Germany, and Professor Darboux. The discussion, however, was brought to a close by the Italian representative calling attention to the fact that it did not bear directly on the resolution before the Congress.

The next resolution which occasioned

discussion read as follows: "That the administration of such a catalogue be entrusted to a representative body hereinafter called the International Council, the members of which shall be chosen as hereinafter provided by the several countries (hereinafter spoken of as the constituent countries) who shall declare their adhesion to the project."

Professor Korteweg, representing Netherlands, proposed an amendment, which was, in substance, that the preparation of the subject catalogue should be entrusted to an international commission representing the different branches of science and that this commission should nominate the International Council. He argued that different branches of science had different needs; that under this proposal it is possible that certain branches of science would not be represented at all, or at best very unequally. Professor Armstrong suggested that it would be well to settle the question in brief, leaving the further details until afterwards. Lieutenant-General Strachey, representing India, pointed out certain other difficulties in the wording of this resolution. Dr. J. S. Billings, of the United States of America, stated that the point raised by Professor Korteweg was so important that he should prefer to see it written down and be able to consider it. Professor Korteweg then withdrew his amendment. The form suggested by Dr. Billings was objected to by Professor Foster, on the ground that it did not provide that representatives of the several countries should be on this Council, to which Dr. Billings replied: "We are not trying so much to get representation of the countries in the first place. It would be a representation of the different branches of science. The countries come in as secondary to the sciences in this representative body." After some further discussion, the resolution, as amended by Dr. Billings, was adopted.

The next resolution read was: "That the final editing and the publication of the catalogue be entrusted to an organization hereinafter called the Central International Bureau, under the direction of the International Council." This resolution, Professor Armstrong explained, would only pledge the Conference to the organization of a central office and in no way preclude the establishment of branch offices. The discussion of this resolution, in connection with the following one, brought out the question from Professor Schwalbe as to what should be done to catalogue the literature of those countries which did not contribute or failed to adhere to the scheme; to which Professor Armstrong replied that in this event he thought the central office should carry out the work. Professor Dyck, representing Germany, thought that there should be a central office, but he raised the question as to whether the subordinate councils should not be considered by sciences instead of by countries. Professor Forel pronounced most emphatically for the arrangement by nationalities. M. Otlet, representing Belgium, was strongly in favor of a division into the sciences instead of by nationalities. He argued, first, that it would be very difficult for the smaller countries to organize a commission embracing all the sciences, and, secondly, that the various sciences were already so well organized, through national and international societies, that if the matter were arranged in this way these organizations would prove powerful auxiliaries. M. Darboux was strongly in favor of an arrangement by nations, pointing out that if the matter were left to some special organizations great difficulties would arise, as the limits between the sciences were hardly decided; "if, for example," he said, "you separate physics and chemistry you run the risk of entirely sacrificing the region intermediate between the two sciences, which is,

moreover, precisely the one in which the most interesting discoveries are being made." Professor Schwalbe gave as a further reason for adhering to nations that it would be easier for a national commission to get the material and, moreover, that in countries in which different languages were employed it would be easier to arrange for classifying the material in that way. The resolution was unanimously agreed to.

The next resolution proposed read as follows: "That any constituent country which shall declare its willingness to undertake the task shall be entrusted with the duty of collecting, provisionally classifying, and transmitting to the Central Office, in accordance with the rules laid down by the International Council, all the entries belonging to the scientific literature of that country, the work of the Central Bureau being in such cases limited to revising and incorporating into the catalogue the entries so received."

Dr. John S. Billings moved an amendment to have the word 'constituent' stricken out and have it read 'any country.'

Dr. Ludwig Mond proposed that the words "the work of the Central Bureau being, in such cases, limited to revising and incorporating into the catalogue the entries so received" be omitted. This motion, as amended, was unanimously agreed to.

The next resolution was: "That, in the classification according to subject-matter, regard shall be had not only to the title (of a paper or book), but also to the nature of the contents." Professor Armstrong explained that this meant that papers would have to be read and studied in order that proper indexes might be prepared. He said, further, that it was his belief that in the future it would be necessary to insist that the author of every paper supply with his paper the material for a subject-index, which, of course, could be revised at the headquarters and subsequently at the Central Office. Dr. Billings moved that the word 'indexing' be substituted for 'classification,' which word he thought had been used wrongly. M. Deniker, representing France, pointed out that, while it was a comparatively simple matter to furnish titles, it was extremely difficult to analyze the contents. He asserted that a single article on zoology describing new species might require two hundred cards. M. Darboux seconded this observation. It is very necessary to zoology, he said, to know whether families or species were to be recorded. If the latter the number of cards would reach immense proportions, and he thought the success of the catalogue depended upon the solution of this question.

The next resolution was: "That the catalogue shall comprise all published original contributions to science, as hereinafter defined, whether appearing in periodicals or in the publications of societies, or as independent pamphlets, memoirs or books." Professor Armstrong pointed out that the object of this resolution was to include in the catalogue of the future all original scientific literature. He stated that in the past it had been the habit of the Royal Society to take note only of periodicals and of the publications of societies, so that the whole of Darwin's work which had not appeared in the publications of a society had been omitted, which was obviously absurd. Professor Newcomb objected to the words 'to science as hereinafter defined,' and suggested, 'to the branches of science hereinafter mentioned,' which suggestion was accepted. Professor Dziatzko pointed out a difficulty. Periodicals, he said, can be procured through exchange, but the matter of books is a much more serious problem, as in the larger countries it would be difficult to get all the titles of books, not to speak of copies of the books themselves; in England, the United States and France this matter

could be arranged through the copyright, but in Germany the copyright had been left to the different states of the Empire and the regulations were different. In Saxony, which included the great publishing town of Leipzig, copies of books were not required to be furnished, and the same difficulty existed in Switzerland. Professor Schwalbe thought that absolute completeness would probably be impossible, mentioning by the way that even the daily newspapers occasionally contain articles of high value which would have to be considered. Professor Mach pointed out that in Austria it was compulsory to register and deposit books, and he expressed the hope that if the Congress came to a successful issue the various governments would enact laws making the deposit of books compulsory. Professor Korteweg suggested that one difficulty would be to make the proper distinction between original works and those which had only a pedagogical value. The elementary book must be omitted, yet there were among such books many that deserved a place. At all events, he thought it desirable to state the principle that pedagogical books on popular science should be excluded. Professor Newcomb thought that the necessary omissions would not materially detract from the value of the catalogue. "Naturally," he said, "every author, if he knows that this is the only way of making his work known, will send a copy to the Bureau, or take some means of making the Bureau aware of his work." Professor Armstrong thought that there would be no difficulty, because the proposed catalogue would serve as the best possible advertisement for the books. This resolution was unanimously agreed to.

The next resolution was a most important one, being designed to bring out the distinction between pure and applied science. As introduced it reads as follows: "That a contribution to science for the purposes of the catalogue be considered to mean a contribution to any of the following sciences: mathematics, astronomy, physics, chemistry, geology, zoology, botany, physiology and anthropology, to the exclusion of what are sometimes called the applied sciences, the limits of the several sciences to be determined hereafter." Professor Schwalbe raised the question whether geography was to be considered one of the natural sciences. In Germany, he said, it was regarded not simply as an auxiliary to natural science, but as a science which of itself had relations to the whole series of natural phenomena, being related to anthropology and astronomy as well as to land surveys. He thought that geography was as much a science as chemistry or physics, and that even anthropology belonged to geography, except that portion of it which was related to anatomy. He was himself of the opinion that anthropology and geography had best be treated together. Professor Heller proposed, as a title, the 'physics of the earth,' stating that geography, meteorology and all sciences which had to do with the knowledge of the earth could be included under this title, excepting physics and astronomy. Mineralogy, he thought, could be treated as a separate science, while geography appeared to be only a portion of the science of the physics of the earth. Professor Christiansen, of Denmark, thought that it would be very difficult to define the different sciences, and that it would be best to take simply mathematics, astronomy, chemistry and botany. Professor Armstrong called attention to the fact that the question under discussion really was whether applied science was to be included. Professor Forel suggested that the phrase be simply 'physical and natural sciences, mathematics,' etc., which was agreed to by Professor Möbius, who remarked that historical studies would have to be omitted. Dr. Billings suggested

that the resolution should run: "mathematics, astronomy, physics, chemistry, geology and the biological sciences, including zoology, botany, morphology, physiology, anthropology, ethnology," etc. Dr. Billings did not think the term 'applied science' clear. In a sense astronomy is applied mathematics. He thought that some phraseology should be employed which indicates the application of sciences to professional and commercial purposes. He also called attention to statistics, which might be considered from a scientific point of view, and thought it well that the broader term biology should be introduced, instead of physiology or anthropology. Professor Möbius, after some further discussion of this resolution, pointed out that the term biology did not have the broad significance in Germany which Dr. Billings ascribed to it. The discussion of this resolution was adjourned for the day.

When the Conference met on the following day, July 15th, the mover of the resolution concerning the scope of the catalogue withdrew it by permission for the purpose of amendment. The discussion of this subject, which is really of much significance to scientific men, continued, and it was apparent that no conclusion could be reached. There seemed to be a tendency to use the words natural and physical sciences, thus leaving the whole matter indefinite. This Dr. Billings very strongly opposed on the ground that the statement as to the general scope of the catalogue should be in such form as to be perfectly clear to all scientific men. But it was evident that the question could not yet be settled, and it was finally decided to refer the terms of the resolution to a committee consisting of Professor Armstrong, Dr. Billings, Professors Möbius, Korteweg and Schwalbe.

The next matter that was of interest was a resolution which read: "That in judging whether a publication is to be considered as a contribution to science, suitable for entry in the catalogue, regard shall be had to its contents, irrespective of the channel through which it is published." It is interesting to note that there was no dissent from this proposition, and that the importance of it was emphasized by the German delegates, several of whom pointed out the fact that trade journals, as, for instance, that devoted to the beet sugar industry, or even the *Allgemeine Zeitung*, often contain scientific articles of great value.

The next resolution, which was one of great importance, read: "That the double system of authors' names and subject-matter being always maintained, the Central Bureau shall issue the catalogue in the form of 'slips or cards,' the details of the cards to be hereafter determined and the issue to take place as promptly as possible. Cards corresponding to any one or more of the branches of science, or to sections of such branches, shall be supplied separately upon such demand." Dr. Ludwig Mond thought that the issuing of cards should be at the discretion of the International Council. Dr. Billings preferred that they should be at the discretion of the Central Bureau. He pointed out that it was a purely commercial detail, and that its advisability depended upon the number of subscriptions received in advance. He hardly thought that a double system was necessary in case of the cards. There was a lengthy discussion over various forms of amendment, that of Dr. Billings being finally carried by the rather close vote of 18 to 14.

The next resolution related to the issue of a catalogue in book form and this, too, being modified, was passed, as follows: "That the Central Bureau shall also issue the catalogue in book form from time to time, the titles being classified according to the rules to be hereafter determined; that the issue in the book form

shall be in parts corresponding to the several branches of science, the several parts being supplied separately, at the discretion and under the direction of the Central Bureau."

The President of the Conference next invited expressions of opinion as to where the Central Bureau should be situated. After a brief address, in which he referred to the fact that the International Bureau of Weights and Measures was established at Paris and the International Bureau of Geodesy at Potsdam, General Ferrero, representing Italy, proposed that the Central Bureau should be established at London. M. Darboux stated, on behalf of the French delegates, that they had been charged by their country to make the same proposition. Professor Möbius made a similar statement on behalf of the German delegates, and Professor Heller for Hungary, Professor Weiss for Austria, Professor Newcomb for the United States; and the representatives of Belgium, Switzerland, Denmark, Sweden and Netherlands agreeing, the resolution to have London as a central office was carried by acclamation. Professor Foster, Secretary of the Royal Society, acknowledged the extremely sympathetic manner in which this resolution had been proposed and carried.

The President of the Conference expressed his thanks on behalf of the British government for the unanimous action of the Conference, assuring them that nothing would be wanting in his country in the endeavor to make this international work a success.

He then invited an expression of opinion as to the constitution of the Council. Professor Foster remarked that there were several ways of electing a council. One was that there should be an appointment of international committees corresponding with the various branches of science and that these international committees should nominate the council. Another plan was that each nation should nominate its members for the council directly. The German delegates stated that they had been directed, by the bodies they represented, to refer back to them the choice of persons for the international bureau. Professor Schwalbe agreed to this view, asserting that the right should be reserved to each government to name the persons who would represent it in carrying on the enterprise. Dr. Duka, representing Hungary, thought that this was a matter to be referred to the respective governments. Various delegates followed this idea, suggesting a postponement of the whole subject, but Professor Newcomb pointed out that inasmuch as this Conference had decided to appoint an international council it could not adjourn without indicating in some way the steps to be taken in the formation of the council. As a tentative proposition he, therefore, proposed the following resolution: "The International Council shall consist, in the first place, of members, one of whom shall be appointed by the government of each country taking part in the preparation of the catalogue. The Council as thus formed shall have power to choose such additional members as it shall deem necessary for the efficiency of its organization." Dr. Billings noted a difficulty in the use of the word government. He said it might very well happen in the United States that the government might have nothing to do with the preparation of the catalogue; that it might come under such bodies as the National Academy of Sciences or the Smithsonian Institution, which could not be said to be the government of the United States. General Ferrero agreed with the suggestion of Dr. Billings, thinking that it might be better for the enterprise if the choice of the delegates were left to some scientific body. M. Darboux thought that

everybody would agree that the nomination should be by the government. Professor Dziatzko proposed that the Conference should appoint a provisional committee, which should enter into communication with various governments and learned societies and thus prepare for a second conference which would settle all details. General Ferrero thought that the Royal Society could itself take the place of the provisional committee suggested by Professor Newcomb, but no definite agreement was arrived at on this point, and the Conference adjourned for the day.

On Thursday, July 16th, the Conference again assembled, and the special order was the report of the committee for the purpose of considering a resolution to indicate the nature of the subjects to be admitted to the catalogue. This committee reported as follows: "That a contribution to science for the purpose of the catalogue be considered to mean a contribution to the mathematical, physical, or natural sciences, such as, for example, mathematics, astronomy, physics, chemistry, geology, mineralogy, zoology, anatomy, botany, physiology, general and experimental pathology, experimental psychology, and anthropology, to the exclusion of what are sometimes called the applied sciences, the limits of the several sciences to be determined hereafter." Professor Möbius called attention to the fact that experimental psychology was known in Germany as psycho-physics, and it was agreed to insert that word in the German text. Professor Forel and the Italian Ambassador favored the inserting of mathematical and physical geography, which was agreed to. M. Otlet suggested the insertion of paleontology, but several members insisted that this was included under zoology.

This matter, which threatened to cause considerable trouble being disposed of, the resolution of Professor Newcomb respecting the constitution of an International Council was taken up, and with the permission of the Conference his resolution was withdrawn in order that another one, which had received fuller consideration, should be admitted. Professor Foster said that he understood it to be the view of the Conference to remit the question to the Royal Society. He said that while the Society would be very proud to accept any duty which might be imposed upon them they would shrink from any executive power in connection with the matter. It had been suggested that this organizing committee of the Royal Society should report to a future meeting of the Conference, but this was objected to by several persons on the ground that when the Conference was adjourned it ceased to be, so that a future Conference was suggested. One of the longest discussions of the entire meeting now followed, but it related largely to questions of diplomacy and policy and may well be omitted here. After many amendments the resolution read: "That the Royal Society be requested to form a committee to settle the questions relating to the catalogue referred to it by the Conference, or remaining undecided at the close of the present sittings of Conference, and to report thereon to the governments concerned."

The next important matter was the introduction of the following resolution: "That whatever system of classification be ultimately adopted for the catalogue it is impossible to accept the Dewey system *en bloc*." By way of explanation of this resolution Professor Armstrong said that he had put it in this form because the International Conference of Bibliography at Brussels had accepted the Dewey system and because it was so widely used in certain libraries. The Royal Society, while not denying the merits of the system for the librarian's use, held that it was impossible to accept it for the purpose of scientific workers. M. Otlet favored the Dewey system. Professor

Heller thought it not practicable for the purpose and favored the remission of the whole question to the committee. Professor Mach stated that as soon as he had thoroughly learned the Dewey system he had become a supporter of it and was of the opinion that some modification of the decimal system would be the best. Professor Dziatzko asserted that the Dewey system was not practicable even for large libraries. M. Otlet then spoke in favor of the Dewey system and explained the reason for its adoption by the Brussels Bibliographical Bureau.

Dr. Billings then spoke on the subject, delivering the longest address of the Conference. He said that the decimal system, known as the Dewey system, was a device for putting books in order on the shelves and a rapid method of finding them. It was simply a shorthand method of finding a book. The application of it to systematic catalogues was a different proposition. He asserted that the Dewey system is not accepted in any government library in the United States, or in any university library in the United States except Albany and Columbia, in both of which Mr. Dewey has been librarian. He said that less than 100 libraries were using the Dewey system and only about 32 the Cutter system. The Dewey system, however, was likely to grow because many young women who had been trained in Mr. Dewey's library school had taken charge of the catalogues of the smaller libraries in the United States, and the Library Bureau which had been founded by Mr. Dewey was providing a large series of useful appliances for librarians. He added: "I, for one, am disposed to award the greatest credit and admiration to Mr. Dewey, not only for the ingenuity which he has shown in this and other matters pertaining to library economy, but also for the ceaseless energy, zeal and persistence in getting the matter before the world and in having his ideas adopted as far as possible. I like to see a man believe himself, and in his own opinions, and do the best he can to put them into operation." He added, however, that the New York libraries, the Boston Public Library and the Boston Athenæum did not use the system and that it was not practicable for a systematic catalogue, even admitting its usefulness for the arrangement on the shelves.

Professor Schwalbe pointed out that even for library work the decimal system had many opponents, and he thought that some alphabetical system would be found the most practicable. Dr. Gill, representing Cape Colony, said that while the motion had brought out a good deal of condemnation of the Dewey system he had noticed that no other system had been put forward as perfect. Professor Armstrong said in reply that he did not think any other system was perfect, but that the object of the resolution was to put the matter in such shape as to leave entire freedom for action. Some considerable discussion followed without result, and Dr. Billings suggested that he would like to have a resolution of more practical value than the mere condemnation of one particular man's system. A long discussion followed on this point without result until Dr. Billings suggested that his object was to "get a declaration on the part of the conference that minute classification by means of symbols is not desirable in a catalogue. It is my opinion that no arrangement of the decimal system which you can propose, whether formed by Dewey or by others, is desirable." After some further discussion it was decided to adjourn until the next day, and on the morning of July 17th the resolution of the previous day was withdrawn and the following substituted: "The Conference, being unable to accept any of the systems of classification recently proposed, remits the study of classification to the Committee on Organization." This

resolution was seconded by Dr. Billings, who remarked that, inasmuch as one or two of his remarks of the day previous had been misunderstood by some members of the Congress, he wished distinctly to say that he did not condemn the Dewey decimal system for the classification and location of books, but he did not think it well adapted to the catalogue which it was proposed to publish. This resolution was now agreed to unanimously, the Belgian delegates desiring it to be placed on record that they abstained from voting.

Professor Deniker, representing France, now proposed: "That the catalogue according to the authors' names be in the English language, all titles to be also in their original language, unless otherwise desired by the Bureau of the country concerned." This resolution was seconded by General Ferrero, the Italian Ambassador. Professor Forel said that the question of language was one of very great importance, and he thought it should be remitted to the Committee of Organization, suggesting the following proposition: "With the questions of classification and form, the questions of the employment of four languages, German, English, French and Italian, shall be remitted to the Committee of Organization." Professor Mach, representing Austria, favored the employment of English as the only language, asserting that English is so widely spoken over the civilized world that it would be most proper to employ that language. "Every one," he said, "should respect his own nationality and his own language, but before that he should consider the universal interest of mankind." General Ferrero said that he supported the motion to use the English language because of precedent and of practicability. The official language of an international bureau should be the language of the country in which it is established; the Commission of Weights and Measures at Paris issued its publications in French, the Geodetic commission at Berlin in German. Professor Newcomb did not think it necessary to translate the titles of papers written in German, French or Italian into English. The discussion continued, many delegates taking part, until finally the following form was agreed upon: "That English be the language of the two catalogues authors' names and titles being given only in the original languages, except when this belongs to a category to be determined by the International Committee."

There was some little discussion as to whether the catalogue should begin January 1, 1900, or 1901, but the date 1900 was finally agreed to.

Professor Forel now made the following motion: "That when the organization for the catalogue is finally established it will be desirable to take in hand the publication of retrospective catalogues, carried out on the same plan, going back from century to century, as far back as the invention of printing." Dr. Billings objected to this resolution He held that it was not the business of the Conference to say what was desirable, but what was possible; that the Conference wanted to have the reputation of being a fairly sensible set of men who had not proposed to do anything which was beyond the reach of human effort properly organized. After further expressions of disapproval this resolution was withdrawn. The Conference then adjourned, with the customary votes of thanks.

Having adjourned, all the delegates presumably returned to their respective countries and made reports to their governments. The American delegates, Professor Simon Newcomb and Dr. John S. Billings, presented their report to the Secretary of State on October 15, 1896. On the following day the Secretary of State referred this report, in accordance with

the suggestion of the delegates, to the Secretary of the Smithsonian Institution, and asked for his views as to the propriety and feasibility of the work in question being undertaken by the Smithsonian Institution, and as to the probable cost, with a view to the departments taking the necessary action. A reply was forwarded to the Secretary of State and these documents transmitted by him to the Senate and House of Representatives. This was done on December 17, 1896.* Naturally enough no result has been reached. No money will be required until the year 1899–1900. But, in accordance with the terms of one of the articles, it is necessary that the countries which intend to adhere to the scheme should make their intention known before 1898. It is, therefore, most desirable that the first regular session of the 55th Congress should place itself on record as pledging the government of the United States to adhere to this plan, than which none has ever been proposed better calculated to promote the interest of science.

I cannot conclude without expressing my gratification, which I feel sure all your readers will share, in the honorable part taken by the United States in initiating this enterprise. It is but due to Dr. Billings and Professor Newcomb to recognize the great usefulness of their presence in aiding in the deliberations. Dr. Billings's long experience in bibliographical work gave his numerous recommendations great weight and they were uniformly adopted. The honor of American science demands that this country shall do its share toward bringing the proposed International Catalogue of Scientific Literature to a successful issue.

CYRUS ADLER.

SMITHSONIAN INSTITUTION,
WASHINGTON, D. C.

*The documents are appended.

APPENDIX.

The following is a selection from the resolutions agreed to :

4. That each delegate shall have a vote in deciding all questions brought before the Conference.

5. That English, French and German shall be the official languages of the Conference, but that it shall be open for any delegates to address the Conference in any other language, provided that he supplies for the proces verbal of the Conference a written translation of his remarks into one or other of the official languages.

6. General Ferrero moved that Sir John E. Gorst be the President of the Conference. The motion having been unanimously accepted,

7. Sir John Gorst nominated as Vice-Presidents: General Ferrero, Professor Darboux, Professor Mach, Professor Möbius, Professor Newcomb. It was further resolved :

8. That Professor Armstrong be the Secretary for the English Language ; that Professor Forel be the Secretary for the French language ; that Professor Dyck be the Secretary for the German language.

9. That the Secretaries, with the help of shorthand reporters, be responsible for the proces verbal of the proceedings of the Conference in their respective languages.

12. That it is desirable to compile and publish by means of some international organization a complete Catalogue of Scientific Literature, arranged according to both subject-matter and to authors' names.

13. That in preparing such a catalogue regard shall, in the first instance, be had to the requirements of scientific investigators, to the end that these may, by means of the catalogue, find out most easily what has been published concerning any particular subject of inquiry.

14. That the administration of such a catalogue be entrusted to a representative body, hereinafter called the International Council, the members of which shall be chosen as hereinafter provided.

15. That the final editing and the publication of the catalogue be entrusted to an organization, hereinafter called the Central International Bureau, under the direction of the International Council.

16. That any country which shall declare its willingness to undertake the task shall be entrusted with the duty of collecting, provisionally classifying, and transmitting to the Central Bureau, in accordance with rules laid down by the International Council, all the entries belonging to the scientific literature of that country.

17. That in indexing according to subject-matter regard shall be had, not only to the title (of a paper or book), but also to the nature of the contents.

18. That the catalogue shall comprise all published original contributions to the branches of science hereinafter mentioned, whether appearing in periodicals or in the publications of societies or as independent pamphlets, memoirs, or books.

20. That in each country the system of collecting and preparing material for the catalogue shall be subject to the approval of the International Council.

21. That in judging whether a publication is to be considered as a contribution to science suitable for entry in the catalogue, regard shall be had to its contents, irrespective of the channel through which it is published.

22. That the Central Bureau shall issue the catalogue in the form of 'slips' or 'cards,' the details of the cards to be hereafter determined, and the issue to take place as promptly as possible. Cards corresponding to any one or more branches of science, or to sections of such sciences, shall be supplied separately and under the direction of the Central Bureau.

23. That the Central Bureau shall also issue the catalogue in book form from time to time, the entries being classified according to the rules to be hereafter determined.

That the issue in the book form shall be in parts corresponding to the several branches of science, the several parts being supplied separately, at the discretion and under the direction of the Central Bureau.

24. That the Central Bureau be located in London.

The resolution was seconded by M. Darboux, supported by Messrs. Möbius, Heller, Weiss, Simon, Newcomb, Otlet, Duka, Bourcart, Dahlgreen and Korteweg, and accepted by acclamation.

25. That a contribution to science for the purpose of the catalogue be considered to mean a contribution to the mathematical, physical, or natural sciences, such as, for example, mathematics, astronomy, physics, chemistry, mineralogy, geology, botany, mathematical and physical geography, zoology, anatomy, physiology, general and experimental pathology, experimental psychology and anthropology, to the exclusion of what are sometimes called the applied sciences—the limits of the several sciences to be determined hereafter.

26. That the Royal Society be requested to form a committee to study all questions relating to the catalogue referred to it by the Conference, or remaining undecided at the close of the present sittings of the Conference, and report thereon to the governments concerned.

27. Since it is probable that, if organizations be established in accordance with Resolution 16, the Guarantee Fund required for the Central Bureau can be supplied by voluntary subscriptions in various countries, this Conference does not think it necessary at present to appeal to any of the governments represented at the Conference for financial aid for the Central Bureau.

28. The Conference being unable to accept any of the systems of classification recently proposed, remits the study of classifications to the Committee of Organization.

29. That English be the language of the two catalogues, authors' names and titles being given only in the original languages except when these belong to a category to be determined by the International Council.

30. That it be left to the Committee (of the Royal Society) to suggest such details as will render the catalogue of the greatest possible use to those unfamiliar with English.

31. That it is desirable that the Royal Society should be informed, at a date not later than January 1, 1898, what steps (if any) are being taken, or are likely to be taken, in the countries whose governments are represented at the Conference, towards establishing organizations for the purpose of securing the end had in view in Resolution 16.

32. That the delegates in reporting to their respective governments the proceedings of the Conference should call immediate attention to Resolutions 16 and 31.

33. That January 1, 1900, be fixed as the date of the beginning of the catalogue.

34. That the Royal Society be requested to undertake the editing, publication and distribution of a verbatim report of the Proceedings of the Conference.

35. That the proces verbal of the Conference be signed by the President and Secretaries.

Letter from the Secretary of State, transmitting with the draft of a proposed joint resolution and inclosures from the Secretary of the Smithsonian Institution, recommendations for an appropriation to enable the United States to participate in the work of making an International Catalogue of Scientific Works.

Department of State,
Washington, December 17, 1896.

Sir: I have the honor to transmit, herewith, the report of Professor Simon Newcomb and Dr. John S. Billings, delegates from this country to the International Conference on a Catalogue of Scientific Literature, held in London in July last by request of the Royal Society, and having for its object an international agreement as to the steps necessary to the preparation, editing and continuous publication of the current scientific literature of all countries.

It will be seen that by the thirty-second resolution formulated by the Conference the delegates were especially requested to bring the following two resolu-

tions to the attention to their respective governments:

16. That any country which shall declare its willingness to undertake the task shall be entrusted with the duty of collecting, provisionally classifying, and transmitting to the Central Bureau, in accordance with rules laid down by the International Council, all the entries belonging to the scientific literature of that country.

31. That it is desirable that the Royal Society should be informed, at a date not later than January 1, 1898, what steps, if any, are being taken, or are likely to be taken, in the countries whose governments are represented at the Conference, toward the establishing of organizations for the purpose of securing the end had in view in Resolution 16.

In the opinion of Professor Newcomb and Dr. Billings, it is desirable that the government of the United States should take its part in the proposed work by providing for the continuous cataloguing of scientific papers published in the United States, and they suggest the propriety and feasibility of the work being undertaken by the Smithsonian Institution.

Professor S. P. Langley, Secretary of that Institution, to whom I have submitted the report of the delegates, concurs in their view as to the great importance of a successful execution of the conclusions of the Conference, and as to the propriety of this government taking its share of the proposed work by providing for the cataloguing of scientific publications of the United States. He recognizes the propriety also of the suggestion that this government should employ the Smithsonian Institution as an agent in the matter, but points out that the work if assigned to the Smithsonian would require a person of special qualifications to immediately assist the Secretary, together with a number of trained clerical assistants, and that the salaries of these persons, and the expenses incident to the work, would require an appropriation of not less than $10,000 per annum. I enclose a copy of Professor Langley's letter on the subject.

The most efficient means for the purpose would seem to be a joint resolution of both Houses of Congress, and I have the honor to suggest the inclosed draft as embodying Professor Langley's views.

I have the honor to be, sir, your obedient servant,

RICHARD OLNEY.

HON. THOMAS B. REED,
Speaker of the House of Representatives.

WASHINGTON, D. C., *October 15, 1896.*

SIR: The undersigned having been appointed by the Honorable the Secretary of State delegates to the International Conference on a Catalogue of Scientific Literature, held in London in July last by request of the Royal Society, and having performed the duty thus devolving upon them, have the honor to submit the following report on the subject:

The object of the Conference was to reach an international agreement as to the steps necessary to the preparation, editing and continuous publication of a catalogue of the current scientific literature of all countries. The need of such a catalogue has been felt from the time that the volume of published scientific researches began to assume its present colossal proportions. About 1860 the Royal Society undertook to supply this need by the preparation of a general catalogue of scientific papers. The first volume of this work appeared in 1867. In the preface it is stated that the undertaking originated in a communication from Dr. Joseph Henry, Secretary of the Smithsonian Institution, to the meeting of the British Association at Glasgow in 1855, suggesting the formation of a catalogue of philosophical memoirs.

This work has been completed by the Royal Society up to the year 1883. In the meantime, owing to the constant increase of the volume of published researches, the task of continuing the catalogue has become so heavy that the Royal Society should no longer be expected to bear the entire burden of its continuance. Moreover, in its present form, the catalogue is arranged solely according to authors' names. In order that the work of the future should be entirely satisfactory it is necessary that the catalogue should also be arranged according to subjects.

Under these circumstances, the Royal Society last year moved the British government to make application to the governments of those countries most interested to send delegates to an international conference on the subject, to be held in London in July, 1896. At this meeting nearly all the leading countries of the world were represented. From the beginning the views were found to be substantially harmonious so far as general conclusions were concerned, and the discussion turned rather upon the form than upon the substance of the proposition submitted. The conclusions as finally formulated are embodied in the enclosed copy of the acta.

It will be seen by the thirty-second resolution the delegates were especially requested to bring the following two resolutions to the attention of their respective governments:

16. That any country which shall declare its willingness to undertake the task shall be entrusted with the duty of collecting, provisionally classifying, and transmitting to the Central Bureau, in accordance with rules laid down by the International Council, all the entries belonging to the scientific literature of that country.

31. That it is desirable that the Royal Society should be informed at a date not later than January 1, 1896 (1897),* what steps, if any, are being taken,

*The report of the Conference gives the date January 1, 1898.

or are likely to be taken, in the countries whose governments are represented at the Conference, toward establishing organizations for the purpose of securing the end had in view in Resolution 16.

Under these circumstances it seems especially desirable that the government of the United States should take its part in the proposed work by providing for the continuous cataloguing of scientific papers published in the United States. It can for this purpose call to its aid a national institution well prepared to direct and supervise the undertaking. The Smithsonian Institution, founded by private munificence for the increase and diffusion of knowledge among men and placed in trust under the government of the United States, was the original proposer of the undertaking now under consideration, and has been made the agent of the government in the direction of important scientific enterprises. We would, therefore, respectfully suggest that the Department of State communicate with the Secretary of the Smithsonian Institution upon this subject, more especially as to the propriety and feasibility of the work being undertaken by that Institution and as to the probable expense, and that when these facts are ascertained the matter will be laid before Congress with such recommendation as the Department, in its wisdom, may deem appropriate.

Very respectfully, your obedient servants,

SIMON NEWCOMB,
JOHN S. BILLINGS.

The SECRETARY OF STATE,
Department of State, Washington, D. C.

SMITHSONIAN INSTITUTION,
Washington, October 27, 1896.

SIR: I have the honor to acknowledge the receipt of your communications of the 16th and 21st instant, inclosing copies of a report of the delegates of this government to the International Conference on a Catalogue of Scientific Literature, summoned in London by the British government at the request of the Royal Society in July last, and inviting an expression of my opinion as to the propriety and feasibility of the United States taking part, through the Smithsonian Institution, in the proposed work by providing for the continuous cataloguing of scientific literature published in the United States, as suggested by the delegates, and further requesting an estimate of the probable expense attendant thereto.

I fully concur in the view of the delegates as to the great importance of a successful execution of the conclusions of the Conference, and as to the propriety of this government taking its share of the proposed work by providing for the cataloguing of the scientific publications of the United States. This opinion is strengthened by the fact that the recommendations made are due to results emanating from the International Conference, at which the United States was officially represented, and by the further considerations that the benefits to be derived from this undertaking are not only great and far-reaching for the scientific progress of America, but also of universal value, and that all the great and many of the smaller nations will take part in the work.

I recognize also the propriety of the suggestion that the government should employ the Smithsonian Institution as an agent in this matter, particularly since the Institution, as the delegates have pointed out, first suggested this subject in 1855, and since it has been from its earliest organizat on interested in scientific bibliogrophy.

I should, however, be reluctant to commit the Institution to the appearance of soliciting Congress in this matter in any case, or to the undertaking of the enterprise, however worthy, unless provision could be made for the necessary expenses of the work. After considering the subject, it seems to me that the work, if assigned to the Smithsonian Institution, would require a person of special qualifications to immediately assist the Secretary, together with a number of trained clerical assistants, and that the salaries for these persons and the expenses incident to the work would require an appropriation of not less than $10,000 per annum.

Expenditures on this appropriation would probably not need to be available before the fiscal year commencing July 1, 1899, though it would seem to be advisable that if the government is to cooperate in the proposed work there should be some earlier assurance of this.

Should the views here given meet with your approval, I venture to express the hope that the Department of State will bring this matter to the attention of the President for transmission to Congress, as was done on a previous occasion when the Institution was requested to assume the care of the international exchange of publications in behalf of the government.

I have, etc.,

S. P. LANGLEY,
Secretary.

HON. RICHARD OLNEY,
Secretary of State.

Resolved by the Senate and the House of Representatives of the United States of America in Congress assembled, That for the purpose of carrying out on the part of the United States the recommendation of the International Conference on a Catalogue of Scientific Literature, held in London in July, eighteen hundred and ninety-six, the sum of ten thousand dollars, or so much thereof as may be necessary, be, and the same is hereby, appropriated, out of any money in the Treasury not otherwise appropriated, for the

expense of clerk hire and the other expenses incident to the work of cataloguing the scientific publications of the United States, the same to be expended under the direction of the Secretary of the Smithsonian Institution.

BRITISH ASSOCIATION, TORONTO MEETING.

THE second Canadian meeting of the British Association will commence in Toronto August 18th, and will continue for eight days. Present indications are that a very large number of British visitors will be in attendance, amongst whom will be found some of the most representative men of British science. About twenty Continental savants, also of representative character, will attend.

Arrangements have been made by the Council of the British Association whereby the members of the American Association are entitled to become annual members of the British Association on the payment of a fee of $5.00. Those who are not members of the American Association can become annual members on the payment of $10.00 or associate members on payment of $5.00. Arrangements are now made whereby the application for membership can be made to one of the local Treasurers of the Association, Mr. James Bain, British Association office. For the convenience of Americans who propose to attend the Toronto meeting, a list of lodgings and apartments as well as a list of hotels has been published and copies of these may be had upon application to the local Secretaries at Toronto. American members of the British Association are entitled to travel in Canada east of Port Arthur at half the usual charge for first-class tickets, this privilege beginning on July 1st and expiring on September 30th. In order to enable the members to receive this privilege they must be provided with what is called a railway certificate, which can be had on personal application to the local officers at Toronto or to the railway officers at Montreal. The presentation of this certificate at any office will at once enable the holder of it to receive reduced railway rates. Such members also will be entitled to reduced rates for a trip over the Canadian Pacific Railway from Toronto to points in western Canada. The rate from Toronto to the Pacific coast and return varies from $61.80 to 70.30, according to the route selected. This does not include the Pullman fare, for which an extra charge will be made.

The various excursions which are arranged for will take place either during the meeting from Saturday, August 21st, to Monday, August 23d, or immediately after it, on Thursday, 26th, 27th and 28th, and will be made at reduced rates. The excursion to Muskoka, which will be for about four hundred, embracing a run of a hundred and ten miles by rail, with a sail over the Muskoka lakes, will cost $1.65. The excursion from Toronto to Niagara will cost $1.25.

The office of the British Association, will be in the University of Toronto building. All the meetings of the Association excepting those for the President's address and the two evening lectures, will be held in the lecture rooms and laboratories of the University of Toronto. The President's address is to be delivered in Massey Hall, where also will be given the two evening lectures by Professor John Milne and Professor Roberts-Austen. The free lectures on Borneo to artisans will be given by Dr. H. O. Forbes, in the Horticultural Pavilion.

According to the scheme of the local provisional program, the time of the members will be pretty fully occupied. The first General Committee meeting of the Association will take place on the afternoon of Wednesday, August 18th. The President's address will be delivered on the evening of the same day. The Sections will meet on Thursday, August 19th, and the addresses of the Presidents will be then given. In the afternoon of the same day