the time the plates were made. In the other fields the source of the coli forms was without doubt the excrement deposited by draft-animals in working the ground, to say nothing of that deposited on the banks and adjacent secluded spots by workmen. Indeed, the non-occurrence of coli forms in certain fields seems most difficult to explain.

These studies are being continued, and when completed, will be published probably in the *Centralblatt für Bakteriologie.*

HAVEN METCALF.

CLEMSON A. & M. COLLEGE,
SOUTH CAROLINA.

THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.[1]

IN 1903 I was appointed by the council of this society acting as the regional bureau for New South Wales, to represent this state at the council meetings held in London in May last. I duly attended the meetings and now have the honor to make the following report. The Royal Society of London commenced the work by compiling catalogues of scientific papers (printed between 1800 and 1883) in twelve large quarto volumes, the first volume of which was issued in 1867. In it the titles are arranged solely under the authors' names. A catalogue of the papers published since, *i. e.*, between 1884 and 1900, is now in hand, and a subject index is also nearly completed.

The possibility of preparing a complete catalogue of current scientific literature was considered by the Royal Society in 1893, but as it was apparent that the work was beyond the resources of the Royal Society, or indeed of any single body, the society sought the opinion of representative foreign bodies and individuals, and the replies being favorable, steps were taken to summon an international conference. This conference, at which I was present as a delegate, took place in London, on July 14 to 17, 1896, and was attended by delegates appointed by the governments of Canada, Cape Colony, Denmark, France, Greece, Hungary, India, Italy, Japan, Mexico, Natal, the Netherlands, New South Wales, New Zealand, Norway, Queensland, Sweden, Switzerland, the United Kingdom and the United States. It was then unanimously resolved to compile and publish a complete catalogue of current scientific literature, arranged according to both subject matter and authors' names. The Royal Society was requested to appoint a committee to further consider the system of classification to be adopted and other matters, and it was decided to establish the central bureau in London.

At the second international conference held in London on October 11 to 13, 1898, several questions were settled and a provisional international committee appointed which afterwards met in London, on August 1 to 5, 1899, when the work was still further expedited and the Royal Society requested to organize the central bureau and make all necessary arrangements so that the preparation of the catalogue might be commenced in 1901.

A third international conference was held in London, on June 12 and 13, 1900, at which all financial and other difficulties were removed by the Royal Society agreeing to act as publishers and to advance the funds necessary to start the enterprise. The supreme control over the catalogue is now vested in an international convention which is to meet in London in 1905, in 1910 and every tenth year afterwards, to consider and, if necessary, to revise the regulations for carrying out the work of the catalogue. In the interval between two successive meetings of the convention the administration of the catalogue is carried out by the international council, the members of which are appointed by the regional bureaus.

The total expenditure from July 1, 1900, to February 29, 1904, has been £10,153, and the total amount received from subscribing bodies was £6,755; eventually the publication will pay its way, but it may be some time before the debt to the Royal Society will be extinguished. The financial support given by the different countries is shown in the following list. New Zealand has not become a contracting body: Austria, £165; Canada, £119; Cape Colony,

[1] Report presented at the annual general meeting of the Royal Society of New South Wales, May 3, 1905.

£109; Denmark, £102; Egypt, £17; Finland, £45; France, £754; Germany, £901; Greece, £34; Holland, £133; Hungary, £68; India and Ceylon, £471; Italy, £459; Japan, £255; Mexico, £85; New South Wales, £34; New Zealand, £17; Norway, £85; Nova Scotia, £17; Orange River Colony, £17; Poland, £17; Portugal, £17; Queensland, £34; Russia, £512; South Australia, £34; Sweden, £85; Switzerland, £119; United Kingdom, £765; United States, £1,251; Victoria, £17; Western Australia, £17. Total, £6,755.

	Slips.	Instalments.
Germany	146,552	59
France	46,702	38
United Kingdom	43,484	166
United States	37,688	68
Russia	21,071	5
Italy	13,473	25
Holland	6,657	17
Austria	6,379	2
Poland	3,492	8
India and Ceylon	2,231	39
Japan	2,208	10
Switzerland	1,932	7
Hungary	1,745	4
Denmark	1,722	17
Sweden	1,457	4
Victoria	1,445	3
Norway	1,303	12
New South Wales	1,016	5
Finland	707	8
South Africa	645	4
Belgium	584	2
Canada	537	11
New Zealand	327	3
South Australia	130	4
Western Australia	16	1
	343,503	522

It has been suggested that special efforts should be made by the regional bureaus to bring the catalogue under the notice of scientific workers, and to secure an increase in the number of subscribers. The whole of the first and second issues of the 'International Catalogue of Scientific Literature' have been published with the exception of the volumes on botany and zoology; the third annual issue is in preparation and several of them are already in the press. The number of entries in the author catalogue of the first annual issue was 43,447, and the total number of entries in that issue was 149,768. The numbers of books and papers indexed in the volumes of the second annual issue are as follows: A, mathematics, 1,843; B, mechanics, 841; C, physics, 2,433; D, chemistry, 5,632; E, astronomy, 1,223; F, meteorology, 1,988; G, mineralogy, 1,307; H, geology, 1,702; J, geography, 2,022; K, paleontology, 638; L, general biology, 689; M, botany, 6,339; N, zoology, 7,131; O, anatomy, 1,424; P, anthropology, 1,861; Q, physiology, 9,671; R, bacteriology, 3,132. The total number of entries in the author catalogue of the second annual issue is, therefore, 49,876, an increase of 6,429, or about 15 per cent. more than the number in the first annual issue. The total number of pages in the first annual issue is 8,387.

The foregoing table shows the number of slips *received* and the instalments in which they were supplied to the central bureau.

It was originally intended that the catalogue should not only contain the titles of papers, but that their subject matter should be fully indexed also; financial considerations have, however, led to the number of subject entries being at present limited in number. The title slips received at the central bureau very often showed that the papers were insufficiently indexed, especially in the lists of new species in botany, zoology and chemistry; in many cases the central bureau has made good these deficiencies. The executive committee urge that efforts should be made in all countries to supply fuller information as to the contents of papers; if this were done the catalogue would be much more complete and the cost would be much decreased, and all journals are urged to index each paper and attach the registration numbers at the time of publication.

At the meeting of the international council held at the Royal Society's House, London, May 23 and 24, 1904, it was resolved, in consequence of the success achieved by the 'International Catalogue of Scientific Literature,' and of its great importance to scientific workers, to recommend that its publication be continued. The agreement with the contract-

ing countries was made in the first instance for five years only, in case the publication of the catalogue should fail financially or in other ways. It was also decided to spend £100 in making the catalogue known, and to take steps to invite the cooperation of other countries not yet represented on the council, *e. g.,* Spain, the Balkan States, South American Republics, etc.

The proposal to publish additional volumes upon, *a,* medicine and surgery; *b,* agriculture, horticulture and forestry; *c,* technology (various branches) was discussed, and it was decided that the executive committee should take the suggestion into fuller consideration and bring it under the notice of the international convention in July, 1905. It was also resolved that all alterations in the schedules should be collected and edited by the central bureau prior to submission to the regional bureaus for their opinions, and that the schemes should be edited by a special committee before being submitted to the international convention.

A. LIVERSIDGE.

INAUGURATION OF THE MAGNETIC SURVEY OF THE NORTH PACIFIC OCEAN.

As announced in a previous issue of SCIENCE, the brig *Galilee* of San Francisco, a wooden sailing vessel, built in 1891, of length 132.5 feet, breadth 33.5 feet, depth 12.7 feet, displacement about 600 tons, has been chartered by the department of terrestrial magnetism of the Carnegie Institution of Washington for the purpose of making a magnetic survey of the North Pacific Ocean. After the various necessary alterations, *e. g.,* substitution of the steel rigging by hemp rigging, etc., were made, the vessel entered upon her duties early in August. Magnetic observations were made at various places on the shores around San Francisco Bay and the most suitable place for 'swinging ship' by their aid determined. The ship was 'swung' with the aid of a tug on August 2, 3 and 4 in San Francisco Bay between Goat Island and Berkeley, California, and the various deviation coefficients were determined.

On August 5, the *Galilee* sailed from San Francisco, secured magnetic observations daily to a greater or less extent according to conditions of the weather and sea, 'swung' twice under sail, and arrived at San Diego, August 12. This first short cruise was an experimental one, various instruments and methods having been subjected to trials under the direction of the writer, who accompanied the expedition as far as San Diego. The deflection apparatus devised by the writer for determining horizontal intensity has proved successful. In a future paper the methods, instruments and results will be more fully described.

After further alterations had been made at San Diego, and the deviation coefficients having been redetermined, the *Galilee* again set sail, on September 1, this time for the Hawaiian and Midway Islands and is expected to return to San Francisco about December 1. After these two experimental voyages, she is to sail from San Francisco early in 1906 on a more lengthy cruise—one embracing the entire circuit of the North Pacific Ocean.

The scientific personnel at present consists of Mr. J. F. Pratt, commander; Dr. J. Hobart Egbert, surgeon and magnetic observer; Mr. J. P. Ault, magnetic observer, and Mr. P. C. Whitney, magnetic observer and watch officer. The sailing master is Captain J. T. Hayes, who has made some record sailing trips in the *Galilee*—one a voyage of 3,000 miles from the South Pacific Islands to San Francisco in fifteen days and having made as much as 308 miles in one day.

L. A. BAUER.

DEPT. TERRESTRIAL MAGNETISM,
CARNEGIE INSTITUTION,
WASHINGTON, D. C.,
September 11, 1905.

EXPERIMENTAL STUDIES IN YELLOW FEVER AND MALARIA AT VERA CRUZ.

THE U. S. Public Health and Marine Hospital Service has published a bulletin on the experimental work done by assistant surgeons M. J. Rosenau, Herman B. Parker, Edward Francis and George E. Beyer, the conclusions of which are as follows: The cause of yellow fever is not known. The *Myxococcidium*