

which have been excerpted for the bibliography.

references deal with individual groups of animals found in Sumatra, as, *e. g.*, Hispidæ or

	1896-98	1899	1900	1901	1902	1903	Total.
(A) Subject Index.							
1. Paleontology .....	1,460	1,840	2,662	2,035	1,436	2,170	11,603
2. General biology .....	187	151	92	155	93	200	878
3. Microscopy, etc. ....	266	132	249	263	107	169	1,186
4. Zoology .....	18,845	14,271	13,326	16,845	11,059	11,.....	85,.....
5. Anatomy .....	1,940	936	1,875	2,007	1,224	1,5...	9,5...
6. Physiology .....	1,380	1,270	433	—	—	—	3,083
Total .....	24,078	18,600	18,637	21,305	13,919	15,2...	111,7...
(B) Authors' Index. ....	16,165	9,492	10,890	10,119	6,727	7,.....	60,.....
Total .....	40,243	28,092	29,527	31,424	20,646	23,.....	173,.....

Another is a card catalogue of all new names of generic or subgeneric rank which have been proposed in paleontology or in zoology since January 1, 1901. Each name will be given two entries, one under the appropriate taxonomic heading, the other in alphabetical arrangement. The price per card of the new catalogue will be double the usual tariff.

The third new publication is that relating to comparative physiology, in regard to which a special circular has been prepared.

Sooner than we expected, our quarters have become too small for storing our rapidly growing collection; but relief has been found for the overflow in a neighboring house.

The following table shows the total number of entries in a complete set of cards arranged by subjects and by authors. The years refer to the date of publication of the cards.

*Distribution by Topics.*—The distribution of primary cards in the chief divisions of the bibliography is shown in the following tables. Our statistics are, however, merely approximate, the earlier cards of the complete series being now quite out of print. The 'complete set' as understood by us can best be explained by an example. Subscribers to the complete set have thus far received 134 cards in the division 'Fauna of Sumatra.' This same division of the systematic set contains a single reference (Moesch: 'Nach und aus dem Pfefferlande'). This contribution appeared to us too general for us to cite it under any particular systematic group and it was classed under Sumatra in general; the remaining 133

Lemoniidæ. In the 'systematic set,' they are entered under Hispidæ, Lemoniidæ, etc.

#### SCIENTIFIC NOTES AND NEWS.

MR. F. A. LUCAS, curator of the Division of Comparative Anatomy of the U. S. National Museum, has been appointed curator in chief of the Museum of the Brooklyn Institute of Arts and Sciences. Mr. Lucas succeeds Mr. Alfred G. Mayer, who, as we have already announced, has been appointed curator of the Marine Laboratory of the Carnegie Institution at Tortugas, Florida.

SIR DAVID GILL, director of the Observatory of the Cape of Good Hope, has been elected honorary member of the Finnish Academy of Sciences.

THE French Geographical Society, at its general meeting on April 22, conferred gold medals on Dr. Sven Hedin and Captain Lenfant.

THE Council of the British Institution of Civil Engineers has made the following awards for papers read and discussed before the institution during the past session: A Telford gold medal to Major Sir Robert Hanbury Brown; a George Stephenson gold medal to Mr. G. H. Stephens, C.M.G.; and a Watt gold medal to Mr. Alphonse Steiger; Telford premiums to Mr. E. W. De Russett, Dr. Hugh Robert Mill, Mr. Alexander Millar, and Mr. T. E. Stanton; a Manby premium to Professor J. Campbell Brown; and a Crampton prize to Mr. L. H. Savile.

THE Iron and Steel Institute of Great Britain held its twenty-fifth annual meeting at London on May 6 and 7. Mr. Andrew Carnegie presided. The Bessemer gold medal for 1903 was presented to Sir James Kitson, M.P., past president, in recognition of his conspicuous services in the advancement of the metallurgy of iron and steel. The Andrew Carnegie gold medal for 1903 was awarded to Mr. Alfred Champion of Coopers Hill for researches in the heat treatment of steel under conditions of steelworks practise. A special medal was also awarded to Dr. O. Boudonard, of Paris, in recognition of the merits of his research on the determination of the points of allotropic changes of iron. Four Carnegie research scholarships of the value of £100, tenable for one year, were awarded respectively to C. O. Bannister (London), to P. Breuil (Paris), to K. A. Gunnar Dillner in conjunction with A. F. Enström (Stockholm), and to J. C. Gardner (Middlesbrough). Further grants were also made to A. Campion and to P. Longmuir (Sheffield). The Bessemer gold medal for 1904 was presented to Mr. Roberts A. Hadfield, vice-president, in recognition of his great services to the metallurgy of iron and steel. The Andrew Carnegie gold medal for 1904 was awarded to M. Pierre Breuil, of Paris, and a special silver medal was awarded to Mr. Percy Longmuir, of Sheffield.

At the annual meeting of the Royal Institution on May 2, officers were elected as follows: *President*, the Duke of Northumberland; *treasurer*, Sir James Crichton-Browne; *secretary*, Sir William Crookes; *managers*, Dr. Henry E. Armstrong, Sir William Abney, Mr. Shelford Bidwell, Sir Alexander Binnie, Mr. J. H. Balfour Browne, K.C., the Hon. Sir Henry Burton Buckley, Sir Thomas A. De la Rue, Dr. J. A. Fleming, Sir Victor Horsley, Lord Kelvin, Dr. Ludwig Mond, Sir Owen Roberts, Sir Thomas Henry Sanderson, Sir Felix Semon and Mr. W. H. Spottiswoode.

PROFESSOR E. B. WILSON, of Columbia University, has sailed for Europe to continue his researches at the Naples Zoological Station.

PROFESSOR ERNST HAECKEL, who recently celebrated his seventieth birthday in Italy,

has returned to Jena and has resumed his lectures.

WE learn from *The Observatory* that Dr. W. Doberck has returned to Hong Kong Observatory after a period of leave in Europe on account of his health. His assistant, Mr. Figg, is now coming to England for a year or two.

AN Astronomical Society has been founded at Newcastle on Tyne with Mr. P. E. Espin as the first president.

EDWARD W. BERRY has been elected recording secretary of the Torrey Botanical Club in the place of Professor F. S. Earle, who has resigned to accept a scientific position in Cuba.

MISS EUGENIA METZGER, M.D., assistant in physiology at the University of Missouri, has been appointed to the woman's table at the Zoological Station at Naples for the months of June, July and August.

THE first field party of the U. S. Geological Survey to leave Washington this year is, as usual, the Alaskan contingent. During the past winter, congress increased its appropriation for Alaskan work from \$60,000 to \$80,000. Nine parties will be engaged there during the coming season in topographic and geologic work. Besides these, three subparties, which may be counted as offshoots of the larger ones, will take up special work, so that the number of survey investigations in Alaska during the summer will be twelve as compared with seven of last year. Among those taking part in the work are Mr. A. H. Brooks, Mr. C. W. Wright, Mr. F. W. Wright, Mr. F. H. Moffit, Dr. T. W. Stanton, Mr. A. G. Collier, Mr. L. M. Prindle and Mr. C. W. Purrington.

PROFESSOR G. H. PARKER, of Harvard University, has given at the Brooklyn Institute of Arts and Sciences a course of six lectures on 'Human Sense Organs and their Evolution.'

THE Horticultural Society of New York held its sixth annual meeting at the New York Botanical Garden on May 11. At the conclusion of the business meeting an illustrated lecture on 'Common Trees and their Uncommon Flowers' was given by Mr. J.

Horace McFarland. There was an exhibition of plants and flowers.

THE Brooklyn Institute of Arts and Sciences held, on May 10, a memorial meeting in honor of Herbert Spencer, the principal address being made by President J. G. Schurman, of Cornell University.

A COMMITTEE has been formed to prepare a memorial of the late Leslie Stephen, which in the first instance will consist of an engraving of a portrait by Mr. Watts, which will be presented to institutions with which Sir Leslie Stephen was closely associated.

PROFESSOR A. W. WILLIAMSON, F.R.S., the eminent British chemist, died on May 6, at the age of eighty years.

WE regret also to record the death of Sir Henry M. Stanley, the African explorer, of M. Leidie, professor of chemistry at Paris, and of Dr. W. Thiermann, lecturer on applied electricity at the Technical School at Hamburg.

THE annual conversazione of the Royal Society was held on May 13.

THERE will be a civil service examination on June 16 to fill the position of laboratory aid in physiology and pathology in the Department of Agriculture at a salary of \$720.

THE government of Iceland has appropriated about \$10,000 a year for twenty years to establish wireless telegraphic connection with Great Britain and between the towns of Iceland.

UNDER date of March 8, 1904, U. S. Consul H. L. Washington, of Geneva, reports that during the month of February the advance in piercing of the Simplon Tunnel was only 15 feet 7 inches per each working-day, and this work was entirely on the southern side. The tunneling work in the gallery on the northern side had not been resumed. In each of the two galleries a system of safety doors was being placed to lessen the effect of floods that may be caused by the springs. These doors would be completed about the middle of March and the mechanical boring would not be resumed until then in both galleries. At the end of February, 1904, a little more than 11.295 miles had been drilled, leaving 0.964 mile to be tunneled.

MR. ARCHIBALD ROGERS, a member of the board of trustees of the American Museum of Natural History, has presented to the museum an exceptionally perfect copy of the first edition of Audubon's 'Birds of the United States of America.' It is believed that not more than 175 copies of this edition of 'Audubon' are now in existence, of which about one half are thought to be in this country. Published in 87 parts at ten dollars each, the work is now valued at \$3,000.

MR. MAX J. BAEHR, consul at Cienfuegos, writes to the Department of State in reference to the use of the metric system in Cuba, stating that it is established by law and is adopted in all transactions at the custom-house, city hall, and in the registry and records of property; in fact, it is compulsory and adhered to in all official acts. In groceries, all solid goods are sold by the ounce and pound, the United States pound being used, as the scales are mostly of American manufacture, a few only being imported from Germany. Liquors are usually sold at wholesale in original packages and at retail by the bottle or fraction of a bottle, the poor people sometimes buying a few cents' worth. The country's products, such as cereals, are sold by the pound or fraction thereof, except that corn when sold in ears is sold by the fanega, which is 1,000 ears of corn. Vegetables are generally sold by the pound, the arroba, or 25 pounds. Cabbages and bananas are sold in numbers from one up to one hundred or more. Civil engineers and land surveyors employ the metric system throughout their measurements. Mechanics in general make use of English inches as their unit measure.

THE next meeting of the Museums Association will be held at Norwich, during July 14 to 17, under the presidency of Dr. Sydney Harmer, F.R.S., keeper of the Museum of Zoology at Cambridge University. The membership of the association has increased so greatly of recent years that a large attendance is expected. We are asked to state that American visitors will be particularly welcome. Further information may be obtained from the secretary, E. Howarth, Public Museum, Sheffield, England.

UNDER date of March 3, 1901, it was announced that 'in order to further the laboratory instruction of large classes of students, Professor W. T. Porter would undertake to provide reliable physiological apparatus constructed under his personal supervision.' During the past three years such apparatus has been made by the mechanics of the Harvard Laboratory of Physiology. The demand for this apparatus now warrants a more systematic provision for its manufacture. Professor Porter therefore announces the formation of The Harvard Apparatus Company, organized for the advancement of laboratory teaching in physiology and allied sciences. This company will manufacture physiological apparatus of simple design, sound workmanship, and low cost, suitable for laboratory teaching and for research.

---

UNIVERSITY AND EDUCATIONAL NEWS.

GOVERNOR ODELL has signed the bill appropriating \$250,000 for the erection of a building for the College of Agriculture at Cornell University.

THE corporation of the Massachusetts Institute of Technology voted that the executive committee be required to ascertain whether any arrangement can be made with Harvard University for a combination of effort in technical education such as will substantially preserve the organization, control, traditions and name of the Massachusetts Institute of Technology.

EUGENE N. FOSS has given \$50,000 to the University of Vermont for the \$1,000,000 fund which the graduates of that college are trying to raise to mark the centenary of the institution.

THE will of the late Solomon Loeb, of New York City, gives more than \$100,000 to public purposes, including \$10,000 for the Chemical Laboratory of the New York University, \$10,000 for the Hebrew Technical Institute and \$5,000 to the American Museum of Natural History.

THE University of Turin has recently celebrated the five hundredth anniversary of its foundation.

DENISON UNIVERSITY has secured a ten-year lease on a small plot of ground adjacent to the campus containing a fine permanent spring for a biological farm. The lease has been donated by a friend, also a fund for equipment, both amounting to \$500. A small work room and open-air breeding pools with running water have been built and enclosed with netting.

KING EDWARD laid the cornerstone for the new buildings of the Royal College of Science, Dublin, on May 28.

PROFESSOR CHARLES S. HOWE was inaugurated as president of Case School of Applied Science, at Cleveland, Ohio, on May 11. President Ira Remsen, of Johns Hopkins University, spoke in behalf of the universities; President H. S. Pritchett, of the Massachusetts Institute of Technology, on behalf of the technical schools; John R. Freeman, of the American Society of Mechanical Engineers, on behalf of the technical societies; and President Charles Franklin Thwing, of Western Reserve University, on behalf of the colleges of Ohio. President Howe's inaugural address followed.

DR. MAXIME BÔCHER, now assistant professor, has been appointed professor of mathematics at Harvard University. Dr. Edward D. Peters has been appointed professor of metallurgy.

DR. A. C. KERR has been promoted to a professorship of anatomy at Cornell University, and has been made secretary of the Ithaca Division of the Medical College.

DR. OSKAR ZOTH, professor of physiology at Innsbrück, has accepted a call to the University of Graz.

AT Williams College, Dr. Frederick H. Howard has been promoted to an assistant professorship in the department of anatomy and physiology.

MR. J. O. GRIFFITHS, B.A., late scholar of Balliol College, Oxford, has been elected to an ordinary fellowship after examination in mathematics and physics.