

and the Insectivores have risen from 26 species to 47 species and 22 subspecies. It is, of course, only natural that a considerable increase of species should have taken place in both these groups, as numerous and active collectors sent out by the United States National Museum and by the Agricultural Department at Washington have of late years traversed every part of the large western States and the adjoining districts of Mexico, where the members of these two groups are found in abundance. The collections thus made have been worked out by Dr. C. Hart Merriam, Mr. Allen and other well-known American naturalists, who have specially devoted their energies to the study of these groups of mammals. It may be fairly stated that in the opinion of many naturalists (who perhaps in these days would be pronounced to be somewhat old-fashioned) the process of the subdivision of species (vulgularly called "splitting") has, in some cases, been carried too far, especially as regards subspecies. At the same time there is no doubt about the high character of the work executed so diligently by Dr. Merriam and his *confrères*. We may point out, however, that the same kind of subdivision has been carried on also, to a certain extent, amongst the larger mammals. On turning over the pages of Mr. Elliot's "List" it will be noticed that the reindeer (*Rangifer*) of North America, which the old-fashioned naturalists have hitherto classed as being specifically inseparable from the European form (*R. tarandus*), is now held to consist of seven different species, and that the Rocky Mountain sheep, of which, until lately, only a single species was generally recognised, has been split into four or five species. Referring to the Carnivora, we find the southern lynx (*Felis rufa*) divided into nine subspecies, and the Virginian fox (*Canis virginianus*) into seven subspecies. The bears of North America, according to Mr. Elliot's "List," now consist of nine species, besides three subspecies. We in Europe have been accustomed to refer them all to three species only. In a similar way the skunks of North America (*Mephitis*) of which Baird only recognised five species, are now held to number no less than twenty species and four subspecies, divided into three genera.

What we have stated (to which more remarks of a similar character might easily be added) will serve to show that a great revolution is now taking place in the mode of treating the mammals by American workers. Symptoms of the same class of work have also occurred in Europe, but the process has not been carried on here to so great an extent, nor has it met with such general acceptance. Whatever may be its results it will certainly be necessary to add greatly to the space now occupied by the mammals in museums of natural history, for it is only a very large series of specimens that will enable the conscientious student to decide between the opposing claims of the "splitters" and the "lumpers," and to decide what are species and what are subspecies.

PRIZE SUBJECTS OF THE PARIS ACADEMY OF SCIENCES.

THE *Comptes rendus* of the Paris Academy of Sciences for December 16, 1901, contains a list of the prizes proposed for the years 1902, 1903, 1904, 1905 and 1906. The subjects proposed for the current year include the following:—

Geometry.—The subject proposed for the grand prize of the mathematical sciences is to perfect, in an important point, the application of the theory of continued groups to the study of partial differential equations; for the Bordin prize (3000 fr.), to develop and perfect the theory of surfaces applicable to the paraboloid of revolution; the Francœur prize (1000 fr.) and the Poncet prize (2000 fr.) will be awarded for works useful to the progress of pure or applied mathematics.

Mechanics.—The Plumey prize (2500 fr.) for an improvement in the steam engine or any other invention contributing to the progress of steam navigation; a Montyon prize (700 fr.) for invention or improvement of instruments; extraordinary prize of 6000 fr. for any invention tending to improve the efficacy of the French naval forces.

Astronomy.—The subject announced for the Damoiseau prize (1500 fr.) is the completion of the theory of Saturn as given by Le Verrier, publishing the rectifying formulæ and establishing the agreement between theory and observation; the Janssen

gold medal for an important discovery in physical astronomy; and the Lalande (540 fr.) and Valz (460 fr.) for general work in astronomy.

Geography and Navigation.—The Binoux prize (3000 fr.) will be awarded for the best work on this subject.

Physics.—The Hébert prize (1000 fr.) for a practical application of electricity.

Statistics.—A Montyon prize (500 fr.) for a memoir on the statistics of France.

Chemistry.—The Jecker prize (10,000 fr.) for work tending to the progress of organic chemistry.

Mineralogy and Geology.—The Fontannes prize (2000 fr.), to the author of the best palæontological publication.

Physical Geography.—The Gay prize (2500 fr.) for a memoir on the progress realised in the nineteenth century in the study and representation of the earth.

Botany.—The Desmazières prize (1600 fr.) will be awarded, independently of nationality, to the author of the best work on cryptogams; the Montagne prize (500 fr.) for a memoir on the anatomy, physiology or development of the lower cryptogams.

Anatomy and Zoology.—The Savigny prize (1500 fr.) for the assistance of young travelling zoologists, not receiving Government assistance, who occupy themselves especially with the invertebrates of Egypt and Syria; the Vaillant prize (4000 fr.) for the study of the fauna of an Antarctic island of the Indian Ocean; the Thore prize (200 fr.) for the best work on the habits and anatomy of a species of European insect.

Medicine and Surgery.—A Montyon prize for works useful in the art of healing; the Barbier prize (2000 fr.) for a valuable discovery in surgical, medical or pharmaceutical science; the Breant prize (100,000 fr.) for the discovery of a radical cure for Asiatic cholera, or for indicating in an indisputable manner the causes of Asiatic cholera in such a manner as to lead to its suppression, or, failing this, the interest on the capital sum will be awarded for a rigorous proof of the existence in the atmosphere of matter capable of taking part in the production or propagation of epidemic diseases, or for the discovery of a radical cure for herpes or for clearing up its etiology; the Godard prize (1000 fr.) for the best memoir on the anatomy, physiology or pathology of the genito-urinary organs; the Serres prize (7500 fr.) for the best work on general embryology, applied, as far as possible, to physiology and medicine; the Bellion prize (1400 fr.); the Mège prize for an essay on the causes which have retarded or favoured the progress of medicine from the oldest times to the present day; the Lallemand prize (1800 fr.) for work on the nervous system; and the Baron Larrey prize (1000 fr.) for the best work presented to the Academy treating of military medicine, surgery or hygiene.

Physiology.—A Montyon prize (750 fr.); the Pourat prize (1400 fr.) for a memoir on the comparative study of the mechanism of respiration in mammals; the Martin-Damourette prize (1400 fr.) and the Philipeaux prize (880 fr.) for work in experimental physiology.

General prizes.—The Arago medal is awarded by the Academy in recognition of a work or discovery of the first rank; the Lavoisier medal is awarded without distinction of nationality to chemists who have rendered eminent service to their science; a Montyon prize (unhealthy trades) for discoveries or inventions diminishing the dangers of any unhealthy trade; the Wilde prize (4000 fr.), awarded without distinction of nationality, for that work or discovery which, in the opinion of the Academy, is best worthy of recompense in astronomy, physics, chemistry, mineralogy, geology or experimental mechanics; the Tchihatchef prize (3000 fr.) for exploration in the lesser-known parts of Asia; the Delalande-Guérineau prize (1000 fr.) for services rendered to French science; the Jérôme Ponti prize (3500 fr.); the Houlevigie prize; the Cahours prize (3000 fr.) for the encouragement of young men already known for their work, especially in chemistry; the Saintour prize (3000 fr.); the Trémont prize (1100 fr.); the Gegner prize (3800 fr.); the prizes founded by Mme. la Marquise de Laplace and by M. Félix Rivot.

Of these prizes some are explicitly and others tacitly restricted to Frenchmen; among those expressly stated to be offered without restriction of nationality are those bearing the names of Leconte, Tchihatchef, Wilde, Lavoisier, Arago, Desmazières, Delesse, La Caze, Lalande and Pierre Guzman.