

INTELLIGENCE FROM AMERICAN SCIENTIFIC STATIONS.

GOVERNMENT ORGANIZATIONS.

National museum.

Publications.—The publications of the museum are issued under two titles, — 'Bulletins' and 'Proceedings.' The bulletins consist of monographs of groups of animals, plants, or minerals; papers upon the fauna, flora, and minerals of different regions of the globe; and similar works. The proceedings contain shorter communications descriptive of new species, etc., or relating to novel phenomena. All papers are based on material in the museum. Five volumes of the proceedings, and twenty-two bulletins, have already been published, aggregating 7,396 octavo pages. The sixth volume of the proceedings, and several bulletins, are now in course of publication. The bulletins which will appear within a short period are the following:—

A bibliography of the writings of Professor Spencer Fullerton Baird, by G. Brown Goode, A.M.; Avifauna columbiana, by Elliott Coues and D. Webster Prentiss, M.D.; A contribution to the natural history of Bermuda, edited by G. Brown Goode, A.M.; A manual of herpetology, by Henry C. Yarrow, M.D.; Official catalogue of the collections exhibited by the U. S. national museum at the London fisheries exhibition, 1883.

The exhibition-halls.—Two very important objects are about to be placed on exhibition in the museum. The first of these is a group of oranges, mounted by Mr. William T. Hornaday. The group represents a fight in the treetop, in which are concerned two adult male oranges, and as spectators a female and baby, and a young male. The setting has been worked out with great care, especially as regards the nests of the oranges, the foliage, vines, orchids, etc. All the specimens were shot by Mr. Hornaday in Borneo, and are mounted from his notes upon the living and fresh specimens.

The second object of interest is an antique Roman mosaic derived from Carthage. It was exhibited at the Centennial exhibition in the Tunisian section, and was afterward presented to the museum by Sir Richard Wood, British consul-general at Tunis. The mosaic represents a lion of life-size, seizing an animal resembling a horse or ass. It is believed to date from the first century B.C.

Additions to the collections.—The museum has recently secured a very valuable collection of archeological objects from Missouri, comprising twenty-five specimens. Included among them are a digging-implement of peculiar shape, and about a foot long, and two hourglass-shaped ceremonial objects of pink quartz about four inches long. Among the recent accessions to the department of birds is a nest of *Opornis agilis*, with eggs,—the first specimen of which there is authentic record. The department of reptiles is at present negotiating for a specimen of the very rare North-American serpent, *Ophthalmidium longissimum*. The department of mammals has received a valuable accession in the form of partially

complete skeletons of eleven sperm whales. They represent the remains of a small school of these cetaceans, which stranded near Cape Canaveral, Florida, in the winter of 1882-83.

Bureau of ethnology.

Pueblo of Tallyhogan.—Mr. James Stevenson reports that careful investigations in the vicinity of the abandoned pueblo of Tallyhogan, in the ancient province of Tusayan, Arizona territory, disclose the fact that the sand-dunes on the north and east of the village were used by the former inhabitants as burial-places. A very little digging exposed the remains of the interred, which were usually placed in a hole in a doubled-up, mummy-like attitude.

In many cases vases and bowls, which probably contained food, were inhumed with the dead, and in some instances trinkets were found.

A number of old specimens were secured, among them being small images of human beings (previously unknown to collectors in this region), curious in workmanship, and ancient in ornamentation.

NOTES AND NEWS.

MR. G. K. GILBERT has recently given some rather disturbing suggestions to the people of Salt Lake City (*Salt Lake weekly tribune*, Sept. 20) concerning the probability of destructive earthquakes there. He describes the slow and still continuing growth of the ranges in the Great Basin by repeated dislocation along great fractures, the earth's crust on one side being elevated and tilted into mountain attitude by an upthrust that produces compression and distortion in the rocky mass, until the strain can no longer be borne, and something must give way. Suddenly and violently there is a slipping of one wall of the fissure on the other, far enough to relieve the strain, and this is felt as an earthquake; then follows a long period of quiet, during which the strain is gradually reimposed. Such a shock occurred in Owen's valley, along the eastern base of the Sierra Nevada, in 1872, when a fault-scarp five to twenty feet high and forty miles long was produced. A scarp thirty or forty feet high is known along the western foot of the Wahsatch range, south of Salt Lake, and other scarps of similar origin have been found at the bases of many of the Basin ranges. The date of their formation is not known; but it must be comparatively recent, because they are still so little worn away. Wherever they are fresh, and consequently of modern uplift, there is probable safety from earthquakes for ages to come, because a long time is needed for the accumulation of another strain sufficient to cause a slipping of one wall of the fissure on the other. Conversely, when they are old and worn down, the breaking strain may even now be almost reached, and an earthquake may be expected at any time. This is the case at Salt Lake; for, continuous as are the fault-scarps along the base of the Wahsatch, they are absent near this city. From the Warm Springs to

Emigration Cañon they have not been found, and the rational explanation of their absence is that a very long time has elapsed since their last renewal. In this period the earth-strain has been slowly increasing. Some day it will overcome the friction, lift the mountains a few feet, and re-enact on a fearful scale the catastrophe of Owen's valley.

— The president of the International committee Dr. H. Wild, by request of the governments concerned, has announced that the observations of the parties at the circumpolar observing stations were to cease, as was originally planned, in September, 1883, and the different expeditions will return as shortly thereafter as practicable.

— Violent solfataric disturbances were experienced in Iceland between the 12th and 21st of last March.

— The English government has decided to establish an astronomical and meteorological observatory at Hong Kong, and has appointed Dr. William Doberck director of the institution. Dr. Doberck has accepted the position, and removed to Hong Kong. He may be addressed through the Crown agents for the Colonies, Downing street, London.

— In the *Journal of chemical industry* of June 29, Mr. G. W. Wigner, F.C.S., F.T.C., gives an account of the damage done to delicate substances by the material in which they are packed, suitability being too often sacrificed to strength, lightness, or mere ornament. As president of the society of public analysts, Mr. Wigner has had many opportunities of studying the subject.

Oysters, he writes, have been imported into England in barrels made of wood containing a very large proportion of tannin, with results which can be better understood than appreciated. The iron contained in the liquor has produced a very noticeable proportion of ink, and the oysters themselves have become converted into a poor but certainly novel kind of leather. Tinned fish and tinned acid fruits have been packed in vessels in which lead predominated over tin to a very marked extent. He alluded to the loss in cargoes of essences and scents by the impossibility of making the stoppers of glass bottles absolutely air-tight, and the damage done to other parts of the cargo by those essences. Mr. Wigner then proceeds to describe the effects of evaporation in the hold of a ship: bilge-water can never be quite excluded, and change of temperature must produce evaporation; the dew thus produced settles on the top of the packing-cases, and in time corrodes the metal, or is absorbed, as the case may be, and, if the voyage be long enough, damages the goods. Canned goods, he writes, seldom remain good for a second season, even if apparently well packed: the tin, some of the iron, and the lead contained in the tin, are dissolved, and the contents of the can become contaminated with these metallic substances.

The greater part of Mr. Wigner's article is devoted to the effects produced on tea by the wood in which it is packed. The Chinese formerly used 'toon' wood only; but the forests have been so much cut down that the supply is running short, and in Assam, wood for packing-cases is cut at random. In one

instance, a consignment of Assam tea had a distinctive odor of its own, resembling a new and excessively rank kid glove; some hundreds of chests being thus damaged. The inner lead coating of tea-chests used by the Chinese is much purer, and less liable to damage by acid, than the lighter lining used by the dealers in upper India.

— Professor Angelo Heilprin was elected one of the curators of the Academy of natural sciences of Philadelphia on Oct. 2, to supply the vacancy caused by the death of Mr. Charles F. Parker. At a meeting of the council, held Oct. 5, Professor Heilprin was appointed actuary to the curators or curator in charge. He has commenced the arrangement of a department of the museum to be devoted exclusively to the natural history of Pennsylvania and New Jersey. The geology and mineralogy, together with the fauna and flora, of the two states, will be represented as completely as possible, and will form a collection which cannot fail to be of special interest to local students.

— The papers read at the meeting of the Biological society of Washington, Oct. 19, were by Dr. Theodore Gill, The ichthyological results of the explorations of the U. S. fish-commission steamer Albatross in 1883; Dr. C. A. White, Character and function of the epiglottis of the bull-snake (*Pityophis*); Professor Lester F. Ward, Note on an interesting botanical relic of the District of Columbia; Dr. C. V. Riley, Manna in the United States.

— The Philosophical society of Washington, on Oct. 13, held its first session after the summer vacation. Since June it has lost three members by death, — Surgeon-Gen. C. H. Crane, who was one of its vice-presidents; Admiral B. F. Sands, one of the original founders of the society; and Dr. Josiah Curtis. The papers of the evening were by Mr. William B. Taylor, on the Rings of Saturn; by Dr. Swan M. Burnett, on the Character of the focal lines in astigmatism; and by Mr. H. A. Hazen, on Thermometer-exposure.

— A scientific session of the National academy of sciences will be held in New Haven, at Yale college, commencing on Tuesday, Nov. 13.

— Mr. F. W. Putnam, of the Peabody museum, Cambridge, announces his readiness to give lectures on American archeology, based upon the course delivered last year before the Lowell institute. His subjects cover such matters as the shell-heaps, caves, mounds and earthworks, stone graves, pueblos, and ancient arts and religious rites of our country, as well as general sketches of the archeology of North America, Mexico and Central America, South America, and Peru.

— At the meeting of the Engineers' club of Philadelphia, Oct. 6, Mr. Edward Thiange presented an illustrated description of a method of earthwork computation, by means of diagrams constructed from the proposition, 'The areas of similar figures are to each other as the squares of their homologous sides.' An idea may be had of their nature and uses by the following directions: to get the average volume in cubic yards of a station (in embankment), to the cen-

tre-fill at each end add the constant height of the 'grade triangle' (which is formed by the road-bed and the side-slopes produced); at the resultant heights on the diagram, measure, with the scale of cubic yards, the lengths of the ordinates terminated by the slope-lines at each station respectively; their sum, diminished by the 'grade prism,' is the average quantity for the station of one hundred feet.

—A paper upon Economy in highway bridges, by Prof. J. A. L. Waddell, was read. Its objects are to determine the most economical depth and number of panels for spans from forty to two hundred feet; the lengths at which it is better to change from pony truss to thorough bridge, and from single to double intersection; the exact dead loads, and the amounts of lumber and iron for each case.

—Mr. Lester F. Ward has published in the U. S. fish-commission bulletin a list of the marsh and aquatic plants of the northern United States, which will be useful to those interested in aquaria and fish-ponds. The list numbers a hundred and eighty-one species, sixty-one of which are strictly aquatic, the balance being found in marshy places. Three species are said by Dr. Hessel to be injurious to carp-ponds; viz., *Nuphar advena*, *Nuphar sagittaeifolium*, and *Bidens Beckii*. The species recommended especially for carp-ponds are of the strictly aquatic genera, *Utricularia* and *Potamogeton*. Of the Compositae, only three species, all *Bidens*, are given as being marsh-loving, or aquatic.

—The director of the Imperial Japanese government laboratory at Yokohama, Dr. A. J. C. Geerts, died there Aug. 30, aged forty.

—We have just received intelligence of the death of the distinguished French paleontologist, Dr. Joachim Barrande.

RECENT BOOKS AND PAMPHLETS.

- Bacharach, M. Abriss der geschichte der potentialtheorie. Göttingen, *Vandenhoock & Ruprecht*, 1883. 3+78 p. 8°.
- Bericht, offiziell, über die im königlichen glaspalaste zu München 1882 stattgehabte internationale elektricitäts-ausstellung, verbunden mit elektrotechnischen versuchen. Red. W. v. Beetz, O. v. Miller, E. Pfeiffer. Leipzig, 1883. 244+154 p., illustr. 4°.
- Bernstein, H. A. Dagboek van de laatste reis van Ternate naar Nieuw-Guinea, Salawati en Batanta 1864-65, uitgavet door S. C. van Musschenbroek. Met aantekeningen, bijlagen en kaart. 's Gravenhage, 1883. 258 p., map. 8°.
- Biehinger. Schematische darstellung elektrodynamischer maschinen. 2 chromolithographische wandtafeln. Nürnberg, 1883. f°.
- Blakesley, T. H. Electricity at the board of trade. London, *Low*, 1883. 24 p. 8°.
- Block, J. Origines de l'électricité, de la lumière, de la chaleur, et de la matière. Nancy, 1883. illustr. 8°.
- Brown, J. C. Finland: its forests and forest management. London, *Simpkin*, 1883. 306 p. 8°.
- Chastaingt, G. Catalogue des plantes vasculaires des environs de La Chatre (Indre). Châteauroux, 1883. 199 p. 8°.
- Cracau, J. R. B. Ob und wann? Ein versuch zur beantwortung der frage nach der möglichkeit und dem zeitpunkte des weltunterganges. Braunschweig, *Graf*, 1883. 33 p. 8°.
- Dahl, F. Analytische bearbeitung der spinnen Norddeutschlands. Kiel, 1883. 100 p., illustr. 8°.
- D'Arzano, A. Les habitants de la mer et la flore marine. Limoges, 1883. 120 p. 12°.
- Dietrich, R. Die darstellung der wurzeln der algebraischen gleichungen durch unendliche reihen. Inaug. diss. Jena, *Deistung*, 1883. 44 p. 8°.
- Dubois, A. Croquis alpins, avec une notice sur la flore alpestre, par F. Crépin. Bruxelles, 1883. 519 p., illustr. 8°.
- Elektrotechnische rundschau. Illustrierte zeitschrift zur verbreitung nützlicher kenntnisse aus dem gebiete der angewandten elektricitätslehre. Red. Stein. heft i. Halle, 1883. illustr.
- Fabri, R. Impressioni della esposizione di elettricità a Parigi; con aggiunte che si riferiscono al primo Congresso internazionale degli elettricisti. Santagata, *Feltina*, 1882. 140 p. 16°.
- Fleck, H. Ueber die chemie in ihrer bedeutung für die gesundheitspflege. Berlin, 1883. 8°.
- Gaffron, E. Beiträge zur anatomie und histologie von Peripatus. Inaug. diss. Breslau, *Köhler*, 1883. 32 p. 8°.
- Galle, A. Berechnung der proximitäten von asteroidenbahnen. Inaug. diss. Breslau, *Köhler*, 1883. 60 p. 8°.
- Glaischer, J. Factor table for the sixth million: containing the least factor of every number not divisible by 2, 3, or 5, between 5,000,000 and 6,000,000. London, *Taylor*, 1883. 4°.
- Gustave, F., et Héribaud-Joseph, F. Flore d'Auvergne, contenant la description de toutes les plantes vasculaires qui croissent spontanément dans les départements du Puy de Dôme et du Cantal, des clefs analytiques et un vocabulaire des termes employés. Clermont-Ferrand, 1883. 624 p. 16°.
- Hauck, W. Ph. Die grundlehren der elektricität mit besonderer rücksicht auf ihre anwendungen in der praxis. Wien, 1883. 293 p., illustr. 8°.
- Hauffmann, C. Bedeutung der keimblättertheorie für die individualitätslehre und den generations-wechsel. Inaug. diss. Jena, *Deistung*, 1883. 41 p. 8°.
- Henneguy, Ch. Les lichens utiles. Paris, 1883. 120 p., illustr. 8°.
- Hess, E. Einleitung in die lehre von der kugelteilung mit besonderer berucksicht ihrer anwendung auf die theorie der gleichförmigen und der gleichkeigen polyeder. Leipzig, *Teubner*, 1883. 10+475 p., 16 pl. 8°.
- Hjelt, E. Grunddragen af allmänna organiska kemien. Helsingfors, 1883. 160 p. 8°.
- Kallenbach, E. Polynoi cirtata O. Fr. Mlr. Ein beiträg zur kenntniss der fauna der Kieler Bucht. Inaug. diss. Jena, *Deistung*, 1883. 38 p., 1 pl. 8°.
- Kauffmann, G. Ueber den β -naphtholaldehyd und seine derivate die β -naphtholcarbonsäure und das β -naphtholeumarin. Inaug. diss. Breslau, *Köhler*, 1882. 37 p. 8°.
- Krämer, J. Die elektrische eisenbahn bezüglich ihres baues und betriebes. Wien, 1883. (Elektro-techn. bibl. xvii.) illustr. 8°.
- Kremser, V. Die bahn der 2 cometen von 1879. Inaug. diss. Breslau, *Köhler*, 1883. 43 p. 8°.
- Kuntze, O. Phytogeogenesis. Die vorweltliche entwicklung der erdkruste und der pflanzen in grundzügen dargestellt. Leipzig, 1883. 240 p. 8°.
- Lankester, E. The cholera: What is it? and How to prevent it. London, *Routledge*, 1883. 8°.
- Lista, R. Mis exploraciones y descubrimientos en la Patagonia 1877-80. Buenos Aires, 1883. 213 p., illustr. 8°.
- Love, G. H. Étude sur la constitution moléculaire des corps, sur les lois des volumes moléculaires, des chaleurs spécifiques et des dilatations. Précédée d'une introduction sur la définition de la loi et celle de la force. Paris, 1883. 2 pl. 8°.
- M., M. K. The birds we see, and the story of their lives. N.Y., *Nelson & sons*, 1883. 3+93 p., illustr. 16°.
- Macé, E. Les Lycopodiacees utiles. Paris, 1883. 80 p. 4°.
- Macgregor, J. L. L. The organization and valuation of the forests on the continental system in theory and practice. London, 1883. 318 p. 8°.
- Manson, P. The Filaria sanguinis hominis, and certain new forms of parasitic disease in India, China, and warm countries. London, *Lewis*, 1883. illustr. 8°.
- Microscopical science, studies in. Ed. by A. C. Cole. vol. i. London, *Bailliere*.
- Netto, Ladislav. Aperçu sur la théorie de l'évolution. Conférence faite à Buenos-Ayres le 25 Oct. 1882. Rio de Janeiro, *imp. Messenger du Brésil*, 1883. 6+22 p. 8°.
- Neumann, C. Hydrodynamische untersuchungen, nebst einer anhang über die probleme der elektrostatik und der magnetischen induction. Leipzig, *Teubner*, 1883. 40+320 p. 8°.
- Oldbricht, C. Beiträge zur kenntniss der einwirkung von trockenem ammoniakgas auf geschmolzenes chlorzink, chlorcadmium und chlornickel. Inaug. diss. Breslau, *Köhler*, 1883. 33 p. 8°.
- Paetel, F. Catalog der conchyliensammlung von F. Paetel. Berlin, *Paetel*, 1883. 3+271 p. 8°.
- Peters, C. F. W. Die fixsterne. Leipzig, 1883. 169 p., illustr. 8°.