NOTES AND NEWS.

THE death of Professor Ercolani on Nov. 16, 1883, at Bologna, inflicts a severe loss upon Italy; for he was distinguished both as a *savant* and a patriot. Count Giovanne Battista Ercolani was born in Bologna in 1819, and descended from an ancient patrician family. He was a favorite pupil of Antonio Alessandri, and early devoted himself to comparative anatomy and pathology. During the revolutionary movement, which swept over Europe in 1849, he was an ardent defender of Italian liberty, with the result of becoming an exile. He sought refuge in the near city of Turin, and there was appointed professor, afterwards director, of the veterinary school connected with the university. He remained in Turin until 1863, when he returned to Bologna to accept a similar position in the old university of that city. By his energy and influence, new buildings were erected, the school reorganized and greatly enlarged, and a valuable pathological museum established. For several years he held the position of rector of the university, and for a considerable period was permanent secretary of the Academy of science of the Institute of Bologna. Like Virchow, he was also a patriot. His reputation was not alone that of a teacher and *savant;* but his early career as a defender of popular rights made him a favorite with the citizens, and he was three times elected and served in the national parliament at Rome.

His numerous publications have contained the results of investigations made for the most part with the microscope, and have secured a wide reputation to his name. Most of his contributions first appeared in the memoirs of the Accademia di Bologna. His works show ability both as an observer and a draughtsman, and a tendency to touch upon general problems; but his arguments are not always clear, nor his observations sufficiently complete to establish his general theorems. He was an enthusiastic, careful, and industrious investigator, of whom Italy was justly proud.

His most extensive series of researches was upon the histology of the placenta, which led him to the conclusion that the lining membrane of the uterus degenerates, the placental membrane being a new formation, the lining being reformed afterwards from the uterine glands. This is not in accord with the views generally held at present. His single law of embryonic nutrition in vertebrates can hardly be considered novel, and is vague rather than profound. But the details recorded in these researches are of great value and interest. These memoirs, together with some additions supplied by the author, were translated into English, and published at Boston in 1880, under the direction of an enthusiastic admirer, Dr. H. O. Marcy.

His studies covered a wide range, — zoölogy, histology, and pathology were all included; but his most valuable work lay in the field of microscopical anatomy. His career has been justly admired, and his memory will long be cherished by his countrymen.

— The Government printing-office has just issued the third volume of the report of the tenth census. This relates to agriculture, and contains, besides the extended statistical tables concerning that industry, and discussion of them by the late superintendent, Gen. Walker, monographs upon cereal production, by William H. Brewer; flour-milling, by Knight Neftel; tobacco-culture, by J. B. Killebrew; manufacture and movement of tobacco, by J. R. Dodge; and meat-production, by Clarence Gordon.

Of the 1,182 pages embraced in this volume, 328 are devoted to the general statistical tables. These are exhaustive, and are very judiciously arranged for reference and use. A general summary, by states, of the principal statistics in 1880, 1870, 1860, and 1850, forms the first table. It treats of the number of farms; the area in farms, classifying the land as 'tilled,' 'permanent meadows, pastures,' etc., 'woodland,' and 'other unimproved' land; the value of farms, farming implements, and machinery; of live-stock, fences, fertilizers, and of all farm products; the number of the different classes of live-stock; the dairy products; cereal and fibre crops; sugar and molasses; hay, poultry, and eggs; apiarian products; rice, tobacco, Irish and sweet potatoes; orchard, market-garden, and forest products; wool, hops, broom corn, and pulse. Following this is a tabular discussion of the number and area of farms, and their form of tenure, by states and by counties. After this are placed county tables relating to the principal agricultural products. These tables are preceded by Gen. Walker's discussion (comprising 33 pages), in which are pointed out the limitations and qualifications of the statistics, and our progress in the different branches of the industry. It treats, in the author's well-known terse, incisive manner, upon the number and size of farms, their area and tenure, their value and that of farm products in total, and the principal agricultural productions severally.

The monograph by Professor Brewer upon the cereal crops is, like all work by this well-known authority, complete and exhaustive. He discusses the cereal product of this country as compared with that of other countries, especially with that of Europe; showing, that, with a surplus production in the United States of 650,000,000 bushels during the census year, there was a deficit in Europe of 380,000,000. The deficit in Great Britain was 280,000,000; in France, 170,000,000; and in Germany, 115,000,000 bushels. Following this discussion, the author naturally treats of the exports of cereals, noting their rapid increase in recent years. Their geographic and climatic distribution is next discussed, and is followed by a brief sketch of the principal classes of soils with relation to their applicability to cereal culture. Taking up the cereals severally, Professor Brewer discusses the product of each, its geographical and climatic distribution, its history, varieties, methods of culture, chemical composition, diseases, injurious weeds, and insects. The report closes with a brief history of American agriculture, and a discussion of the relations of this to other industries, and

of cereal culture to other branches of agriculture. The report is illustrated with sixteen double-paged colored charts of the United States; showing the proportional extent of cereal culture, and the relative yield of cereal crops per acre, and per head of population.

The report upon flour-milling processes is one of a series upon power and machinery, which subject was under the general direction of Prof. W. P. Trowbridge of Columbia college, New York. It treats somewhat at length of the various milling processes and machinery, and is freely illustrated with outline plates.

Professor Killebrew's report upon the culture of tobacco occupies not less than 286 pages. Besides the tables of production, and a few pages descriptive of the principal types of tobacco, the report consists of descriptions of soils, climate, methods of culture, curing, and marketing of tobacco. Each state is treated separately and very fully, which necessarily produces a great deal of repetition, and thereby unnecessarily extends the report. The concluding chapter consists of a treatise upon the chemistry of American tobaccos, by Gideon E. Moore, Ph.D.

The manufacture of tobacco is treated by Mr. J. R. Dodge, now and formerly the statistician of the department of agriculture. Commencing with a history of tobacco-production in this country, he traces it up to the present time, sketching the origin and the present habitat of the different varieties. Proceeding then to the subject proper of the report, the author submits the statistics, and discusses them exhaustively. He next takes up the subjects of taxation and the revenue from this product, exports and imports, the commercial movement and prices, with which the report closes.

The report upon cattle, sheep, and swine, by Mr. Clarence Gordon, is supplementary to the statistics upon live-stock. This report relates to live-stock upon ranches as distinguished from that upon farms. The distinction is not an easy one to draw in all cases, the line between ranch and farm being by no means a plain one; and one cannot help questioning the utility of attempting to separate them. The report opens with a short chapter upon pasture and forage plants by Professor Brewer. The report proper follows, each state and territory being treated separately. The matter relating to each consists of an historical sketch, a description of the pasturage areas, and the management of the ranch business, both in cattle and sheep raising and in cattle-driving. The estimates of pasture-land are in most cases undoubtedly very much too great; as, for instance, that four-fifths (50,000,000 acres) of the area of Wyoming is available as pasture-land. The report closes with a summary of the exports of meat and live-stock, and tables of the numbers of live-stock on farms and ranches.

In its outward appearance, this volume, as well as those which have preceded it, is not by any means above criticism. The only part of the mechanical execution of these volumes which deserves commendation is the colored plates, which were presumably printed by the lithographers. It is greatly to be regretted that so important and valuable a series of volumes should not be dressed in a garb in better keeping with their intrinsic merits.

— Dr. R. W. Shufeldt has asked authority of the surgeon-general of the army to compile an illustrated catalogue of the collection of comparative anatomy in the army medical museum, of which he has lately been placed in charge. Such a work as is intended, would be contained in a volume conformable in size with other illustrated catalogues of this institution that refer to the sections of surgery and medicine.

There are contained in the section in question upwards of three thousand specimens. These are chiefly osteological in character; and the classes of mammals, birds, reptiles, and fish, are pretty well represented. The general plan of this catalogue is to make it a complete work of reference to the collection. Each of the genera of all the vertebrate classes are to be awarded an illustration, and the text will present a concise account of the anatomy of the form treated. In every instance where it will be possible, the subject, be it an osteological one or a wet preparation of the soft parts, is to be chosen from the museum collection; so that any person using this catalogue will have the actual type before him, and the one that was selected to illustrate the text. Special attention is to be paid to the anatomy of such vertebrates as elucidate the principal questions in human physiology and anatomy, and good figures and illustrations of such forms will invariably be presented. Again: the vertebrates of our own country will be the subjects chosen in each case, as far as possible. By this means the student and anatomist may pursue his studies away from the museum after he has investigated all that is to be found there in his special line of research, and that, too, upon similar subjects. In short, it is evident that such a work will constitute a more or less exhaustive contribution to the literature of vertebrate anatomy, and be of special value to all scientific and professional men. The army medical museum contains within itself unusual facilities for the prosecution of such a work at comparatively little expense; since it has its own corps of workers, including photographer, artist, and others.

— Mr. Joseph Wharton of Philadelphia writes to the *Public ledger* of that city (Jan. 22) that he has found volcanic glassy dust in fresh, clean snow of recent fall. The snow, melted under cover in the porcelain vessel it was gathered in, showed at first no sediment; but after a time, and aided by a gentle rotatory movement which brought all to the deepest point, a slight deposit appeared. By pouring off most of the water, and evaporating the remainder, a little dry dust was obtained, which, even to the naked eye, showed, in the sunlight, tiny vitreous reflections. The dust weighed by estimate a hundredth of a grain, and showed under the microscope the characteristics of volcanic glass. It was partly irregular, flat, and blobby fragments, and partly filaments more or less contorted, which were sometimes attached in little wisps, and were mostly sprinkled with minute glass particles. Under a knife-edge, the filaments broke easily and cleanly. The irregular

fragments were of various sizes and shapes, mostly transparent, but, even when examined by strong transmitted light, showed no trace of crystalline structure. Their diameter was about that of single filaments of silk. No crystalline particle of pyroxine, or black crumb of augite, such as observers have found elsewhere in similar dust, was present; nor did a strong magnet stir any particles of magnetic oxide of iron, though they also have been found in other volcanic dust. It may fairly be assumed that those heavier minerals, if at first mingled with the volcanic glass, had been already deposited during the long voyage through more than ten thousand miles of space and more than four months of time, while the tenuity of the intrinsically lighter glass threads (the Pele's hair of Mauna Loa) enabled them to float farther from the point of eruption.

— The maps recently published by the Northern transcontinental survey, the discontinuance of which we regret, include the Crazy Mountains and Judith Basin in Montana, and the Yakima and Colville regions in Washington Territory, — a total area of about twenty thousand square miles, on a scale of two miles to an inch, with contours every two hundred feet. One has only to look at the best previous compilations of these districts to see the need and superiority of the new work. With this excellent basis, Prof. E. W. Hilgard of the University of California, in charge of studies of soils, has prepared three maps, four miles to an inch, printed in colors, of the Yakima and Colville districts, showing the characteristics and possibilities of the surface in much detail. Mr. T. S. Brandegee, working under the direction of Prof. C. S. Sargent of Harvard university, in charge of forestry, has also completed a map of the Yakima district, showing the distribution of the valuable trees in much detail: a regretably large area is marked as burnt.

These maps form but a small share of the material now collected: the greater part is not yet prepared for publication. In Mr. Pumpelly's first annual report, mention is made of the discovery, by Mr. George H. Eldridge, of valuable coal close to the line of the Northern Pacific railroad, near Bozeman, Montana; and of explorations of the coal-fields west of the Cascade Range by Mr. Bailey Willis. Studies of climate and rivers were undertaken by Prof. E. S. Holden of the Washburn observatory, — studies of the utmost importance in the interior region, where cultivation, unless on the lowest bottom-lands, is impossible without irrigation in the drier summer months. Much material has been brought together by Mr. W. M. Canby concerning the distribution and relative abundance of the various forage-plants on which the stock-raising interests depend. It is sincerely to be hoped that the results of these practical studies may be brought to light, together with the scientific information gathered during the two seasons during which the survey has been in operation.

— *Nature* reports that the French Société des électriciens has completed its organization, and has been divided into six sections, — Theoretical electricity, M. Marie Davy, president; Dynamo-electrical machinery, transmission of force to a distance, distribution of energy, M. Tresca, president; Electric lighting, M. du Moncel, president; Telegraphy and telephony, M. Blavier, president; Electro-chemistry and electrotherapy, M. Jamin, president.

— At the last general meeting of the Société de géographie, M. de Lesseps announced his conclusions on the subject of the Suez Canal. A project had been submitted to the English government; and, if a favorable response be not received, the canal company will proceed to carry out its own plans. He claimed that no one else had a right to make a canal by the side of the present one, and that this occupies the only feasable route. To the west the topography presents obstacles. To the east, a new canal would destroy the system of irrigation upon which the wealth of the country depends. All that is needed is to enlarge the present canal. When this was projected, the most eminent engineers of all countries decided on a canal with forty-four metres width at its maximum depth; but, owing to great expense and opposition encountered, the company contented themselves with a width in this part of twenty-two metres, which completely satisfied the needs of the commercial world of that day. Twenty-five years ago the increase of steam-navigation was not dreamed of. In 1830, of five hundred vessels composing the expedition to Algeria in the port of Toulon, there was not one steamer. In 1882 seven millions of steam tonnage passed through the canal, and only one sailing-vessel of seventy-five tons. The principal question to be determined at present, is, whether the enlarged canal shall consist of two waterways with an embankment between them, or whether the breadth of the present waterway should be extended to forty-four metres at the bottom and a hundred and twenty at the surface of the water. This would be decided by the engineers consulted, though the speaker was in favor of the latter plan, as swift vessels could then pass slow ones. The embankments of the canal are a relic of the days when vessels were towed. He saw no reason why the enlarged canal should have any embankments purposely constructed. The dredgings, which will be much less considerable than in the original work, can be dumped by the side of the canal, and thence spread out without maintaining a bank of any kind. This, at least, was M. de Lesseps's opinion.

— Prof. F. H. Snow, of the University of Kansas, reports that the chief characteristics of the weather of 1883, from observations taken at Lawrence, were the low mean temperature of all its months except April, November, and December; the unusually long period of immunity from severe frost; the large and well distributed rainfall; the slight preponderance of northerly over southerly winds; the high average wind velocity; the very high mean barometer, surpassing that of any previous year of our sixteen years' record; and the remarkably brilliant and long-continued orange and crimson sunrise and sunset glow of the last five weeks of the year.