NOTES AND NEWS.

— The Compendium of the tenth census, which is now being distributed by the interior department, is comprised in two octavo volumes, each of about 900 pages. This is about double the size of the compendium of the ninth census. This great increase is produced in the main by the introduction of more detailed tables, and of subjects which were not taken up by the ninth census, or, if taken up, their statistics were not summarized in the compendium.

The contents of the work before us may be summarized as follows: to the statistics of population, including, as allied topics, occupations, illiteracy, the defective, dependent, and delinquent classes, and mortality, are given about 800 pages. These include the statistics of the aggregate population, of race and nativity, by states, counties, and minor civil divisions; a classification of the native population by state of birth, and of the foreign element by country of birth; and the statistics of sex and age. The latter are very full, comprising, among others, a table giving the number in each state of each successive year of age.

This matter is followed by the statistics of agriculture, which occupy about 275 pages. These comprise, in general terms, the area and size of farms, extent of cultivated land, and the vegetable and live-stock productions. They are given by states and counties.

The statistics of manufactures, which follow, occupy about the same number of pages as those of agriculture. These are particularly full and complete, containing, besides tables of general statistics by states and counties, the statistics of no less than 332 different industries. Tables of power used in manufactures, a subject new to the census, follow. The statistics of mineral production, petroleum, and of quarries, succeed; then those of railroads, steamcraft, canals, telegraphs, and telephones. Statistics of occupation are sandwiched in between the last and those of fisheries. Then follow foreign parentage, areas, families, and dwellings; Alaskan statistics; fire, life, and marine insurance; wealth, debt, and taxation; illiteracy and public schools; the defective, dependent, and delinquent classes; and, as a fitting *finale*, mortality.

As will be noticed, the arrangement of the work is not all that could be desired. While the great bulk of the statistics regarding the population are grouped in the earlier part of the work, a number of subjects closely related to it are scattered in toward the end. It is very probable that this was a necessity, growing out of the order, in time, in which the different subjects were prepared for publication.

As this work contains abstracts of all the statistical matter of the census, its completion presupposes that of the more extended tables, which form the statistical matter of the full reports; and their appearance may be expected as rapidly as the capacity of the Government printing-office will permit.

— The third meeting of German geographers will be held at Frankfort-on-the-Main on the 29th, 30th, and 31st of this month. As at the previous meetings at Berlin and Halle, the morning sessions will be given up to scientific addresses, and the afternoons to questions of school method. There will also be an exhibition of geographic teaching-material, to remain open for two or three weeks.

— As the city of Buenos Aires was separated from the province of the same name in December, 1880, and made federal territory, it has been decided to establish a new city for the provincial capital, to be called La Plata. Its first foundations were laid Dec. 9, 1882, about twenty-five miles east of Buenos Aires, and three miles west of the harbor of Ensenada.

— Professor Owen, in the Proceedings of the Zoölogical society of London for 1882 (p. 571), objects to the current statement that Hilton was the first to discover the Trichina spiralis, and points out that Hilton saw only the calcified cysts in the muscles of cadavers. To Professor Owen himself properly belongs the honor of the important discovery of the parasitic worm, — a discovery which has led to the prevention of so much suffering by having guided us to the means of avoiding trichinosis.

— For the past five years the Department of agriculture has been endeavoring to encourage the production of raw silk in the United States by the dissemination of eggs, and by publishing for free distribution a manual of instruction. A definite impulse to the industry was looked forward to, when the tariff commission recommended that a small duty be placed upon reeled silk and cocoons; but this recommendation was unheeded by the Senate committee having the bill in charge. A most interesting discussion was brought out, however, by the amendment offered by Senator Morgan of Alabama, Feb. 8, to strike out those articles from the free-list, and to place a duty of ten per cent *ad valorem* upon them. Senator Morgan defended his amendment in a very able manner, and was seconded by Senator George of Mississippi. The amendment was defeated by a vote of 39 yeas to 7 nays. Strangely enough, the two principal arguments were diametrically opposed to each other. Senator Hawley of Connecticut stated that the production of silk had been attempted in this country, at intervals, for two hundred years without success, and held that it could not succeed with all the protection the government could give it; while Senator Ingalls of Kansas pictured in glowing colors the success attained by M. de Boissière at Silkville, Kan., and argued, that, while such results are possible without an import-duty, the necessity for levying such a tax does not exist. As a commentary on this latter argument, we may state that Boissière's silk-experiment is now, and has been for some years,

at a stand-still, solely because stock-raising and general farming have proved more profitable as an investment.

The report of the entomologist of the department, recently issued, confirms all that has been hitherto said as to the adaptability of our country to this industry, and as to the value of the osage orange (Maclura aurantiaca) as silk-worm food. But while there can be no question on these points, or as to the desirability of permanently establishing so important an industry, he has felt it necessary to dissuade rather than encourage large enterprise in this direction, for the simple reason, that, under existing conditions, the investors must needs meet with disappointment. He remarks, "Those who have eggs for sale, or who are interested in the propagation and sale of mulberry-cuttings, and those who are influenced by philanthropic or benevolent motives, can afford, albeit from opposite motives, to stimulate in every possible way the interest naturally felt in the subject; but the disappointment, under existing circumstances, is apt to be great in proportion as the interest increases, so that there is danger of a repetition of the many reactions from similar attempts in the past. This follows necessarily from the fact that the reeled silk is imported free of duty, while there is so very heavy a duty on the woven goods.

"There is a duty to-day, on wools valued at 32 cents, of 10 to 11 cents per pound, and 10 per cent *ad valorem*. Still, in past years, as in 1846, wool has been imported free of duty. Now, wool is essentially a raw product, having gone through no expensive process of manufacture; yet what would our wool-growers throughout the country say, if it were proposed to do away with the duty, and allow wool to come in, as reeled silk is now allowed to come in, free? They would, no doubt, declare that such action on the part of Congress would give the death-blow to wool-growing in the United States. Silk-culture is in just the condition that wool-growing would be in under such circumstances; and if there is any advantage to the country in the protection of one kind of silk-manufacture, then, logically, that other branch of silk-manufacture, namely, silk-reeling, which would add value to the cocoon, and give encouragement to its production, should also be protected."

He remarks that the 'raw silk' now imported, to the value of over twelve million dollars, is a manufactured article, requiring unusual skill and intricate machinery, and that its introduction free of duty is as much an encouragement to foreign manufacturers as the removal of the duty would be on the woven goods.

— The January number of The Virginias, the excellent mining journal edited by Major Hotchkiss, and devoted to the industrial development of the two Virginias, contains a rough map of the Cabin creek coal company's lands, lying south of the Kanawha valley, with sections and borings, in illustration of two reports upon the coal and timber lands of the company by Prof. S. P. Sharples and Capt. I. A. Welch, which are printed in full. The same number contains a reprint of Hitchcock's paper before the mining-engineers in 1882, on the Crystalline rocks of Virginia compared with those of New England, and Notes on the geology of the Virginias from the note-books of the Virginia geological survey of 1835–41, by the late Prof. W. B. Rogers, toward whom Major Hotchkiss stands as literary executor so far as his Virginia work is concerned. It also contains, from the same papers, a geological section of the Ohio river hills at Wheeling, now mostly buried under heaps of slag and cinder, and a careful analysis of the same by Prof. I. C. White. We trust the people of Virginia appreciate Major Hotchkiss's work.

— The officers of the Paris anthropological society for the present year are: president, Dr. Proust; vice-presidents, Dr. Hamy and Dr. Dureau; general secretary, Dr. Topinard; assistant, M. Girard de Recille; annual secretaries, Dr. Prat and M. Issaurat; committee on publication, M. de Quatrefages and Dr. Parrot; curator of the museum, Dr. Collineau; treasurer, M. Leguay; librarian, M. Vinson.

The school of anthropology was opened on Nov. 4, 1882, with the following courses: — *zoölogical anthropology*, M. Mathias Duval, on anthropology and embryology compared, Darwinism, cerebral convolutions; — *general anthropology*, Dr. Topinard, on the history of anthropology, observations and measurements to be made upon the living by travellers; — *ethnology*, M. Dally, description of races, geographical distribution, crossing, degeneration, affiliations, evolution; — *prehistoric anthropology*, M. de Mortillet, protohistory, religion from an ethnic point of view, development of arts, and the origin of agriculture and industry; — *medical geography*, M. Bordier, influence of social environment upon the progress and spread of diseases; — *demography*, M. Bertillon, statistics of marriage, births, and deaths in the different countries of Europe.

— Rev. Henry C. McCook of Philadelphia is engaged upon an illustrated book on 'American spiders and their spinning work,' and hopes to have a volume on the 'Industry and habits of orbweavers' ready by midsummer.

— The Manitoba historical and scientific society has published as its 'Transaction No. 3' a paper by J. Hoyes Panton, late of the Ontario agricultural college, on the Geology of the Red-river valley, in which the author looks forward to the time when the city of Winnipeg will become dependent, for its water-supply, upon the Lake of the Woods, seventy miles distant.

— The curator of the Peabody academy of science, of Salem, reports that winter classes in botany, averaging more than fifteen regular attendants for the

last four years, and increasing rapidly, have been formed. A newly discovered shell-heap in Ipswich has been opened, and every specimen of value saved; giving the only single shell-heap contents, as yet systematically preserved, from this county. In the early spring some 75 hardy western catalpa-trees, from five to eight feet high, were distributed gratuitously to persons in the county who would give the tree a fair trial, and report results.

— The meteorological bureau of Ohio proposes to establish a system of weather-signals to be displayed on railway trains, making use, of course, of the predictions furnished by the U. S. signal service. Arrangements have already been made with one road leading out of Columbus; and a system of signalling will be put in operation as soon as the best form of signals can be determined upon.

— The chief publications on natural science issued in Bengal the past year were catechisms of sanitation and hygiene for use in the schools in Bengal, and text-books of algebra, arithmetic, and physical geography. Baboo Kási Charan Gupta published the first volume of a Bengalese translation of an English work upon surgery.

— The lecture of Major J. W. Powell, upon Indian mythology, which was announced in the programme of the Washington Saturday scientific course for the 10th inst., was not delivered, owing to the illness of the lecturer. Mr. G. K. Gilbert, who acted as substitute, spoke upon the Ancient lakes of the Great Basin.

— Geographers and meteorologists will regret to learn that the bill making appropriations for the Signal-service of the U. S. army, which passed the last Congress, requires the parties at Point Barrow and Lady Franklin Bay to be recalled, if possible, from the field. It appears that the bill would have been mandatory were it not for the doubt as to whether Lady Franklin Bay can be reached next summer; and, in any case, we may expect the Point Barrow party to be withdrawn. An attempt will be made, however, to utilize the relief expedition to the last locality, by observations with the pendulum, etc., during the stay of the vessel. It is to be hoped, at least, that the observations will not be interrupted before the end of September; since several of the international parties did not get well at work before that time in 1882, and the observations for one co-operative year will not be complete if any of the parties are interrupted in their work at an earlier date in 1883.

— The report of the Board of commissioners of the Second geological survey of Pennsylvania to the legislature, Jan. 1, 1883, contains a colored map showing the progress of the survey up to Dec. 31, 1882. There remains unsurveyed a large part of Huntingdon and Centre counties, a small part of Clinton, and parts of Schuylkill, Carbon, Berks, Bucks, Montgomery, and Clearfield counties. In the anthracite region a number of underground maps have been prepared. Twenty such are finished, and with them a number of accompanying sections. The appropriation for the anthracite work is not sufficient; and they estimate the cost of completing it at $50,000, and the time necessary at three years.

The Chester and Delaware county reports (C 4 and 5), the Warren county report (I 4), and the Lehigh and Northampton report (D 3), will be issued shortly, as soon as the rest of the illustrations are printed.

It is to be hoped that the legislature will provide the necessary funds for the completion of the valuable work of this survey, and that a general index will be prepared, rendering the work of the survey more accessible than it is at present, owing to the large number of volumes, and the somewhat imperfect tables of contents or indexes attached to each volume. We also hope for some contributions from the survey to American paleontology, in addition to Lesquereux's memoirs on the fossil floras, and are sorry to see no mention of any such work.

— At a meeting of the Ohio state forestry association, March 10, it was decided to call a general state convention in the interests of forestry, to be held in Cincinnati, April 26 and 27. Communications, both scientific and practical, are solicited by the secretary, Adolph Leué, Camp Washington, Cincinnati, O.

— The census office has recently published a bulletin concerning the timber resources of West Virginia (No. 25 of the Forestry series). The forests consist chiefly of broad-leaved trees, the narrow-leaved trees (white pine and spruce) being confined chiefly to the higher mountains. The white pine covers about 310 square miles, which are estimated to contain 990,000,000 feet of merchantable lumber. The broad-leaved forests consist in the main of white and chestnut oaks, black walnut (which is wide-spread, but most abundant in the south-west), yellow poplar, and cherry (which is abundant in Greenbriar, Nicholas, and Webster counties, and the country adjoining them).

The lumber product of the state during the census year was valued at $2,431,857. Along the Ohio and its principal branches, especially in the north-western part of the state, all the valuable timber has been cut.

The bulletin is accompanied by a map, showing, in colors, the different classes of forests, and the area from which the valuable timber has been removed.

— Mr. James C. Pilling, of the Bureau of ethnology at Washington, has published in a separate pamphlet his Catalogue of linguistic manuscripts in the library of the Bureau of ethnology, which first appeared in Major Powell's first annual report. The vocabularies of Schoolcraft, Gibbs, Gallatin, Hale, and the Smithsonian institution, have been used for many years in gathering Indian linguistic material. Some of these have been published; others had been

lying in the archives of the Smithsonian, until Major Powell, in 1876, received them to be "consolidated and published in connection with like material collected by himself and his assistants while among the Indians in the western portion of the United States." A succinct account of the work accomplished by the bureau completes Mr. Pilling's introduction. Major Powell has issued a more elaborate Introduction to the study of Indian languages than the instructions of his predecessors, of which the analysis will be found at the close of Mr. Pilling's preface. Besides those printed in former volumes, over three hundred manuscripts of various extent, from thick tomes down to a few pages, remain to be elaborated, and put in print. Mr. Pilling has in type, as far as the letter M, an exhaustive bibliography of North-American Indian linguistics, bringing the subject down to the hour of going to press. He goes to San Francisco this month to consult the Bancroft library.

— Rogozinski and his party, including a geologist, meteorologist, engineer, and mechanic (all Poles), sailed from Havre Dec. 13, 1882, for Fernando-Po, on his African expedition.

— The proceedings of the Belfast nat. hist. and phil. soc., for 1881–82, contain, among other articles, papers by J. J. Murphy on the rainy or post-glacial period, and by Professor Cunningham, on corals and coral islands. The former claims, that, as the astronomical causes which produced the snowy or glacial climate faded away, the rainfall remained heavy for a time, as is shown by the deposits in the bogs of Norway, and the shore terraces of our extinct western lakes. It is supposed that the glacial time was preceded by similar rainy conditions, but their record is lost. The latter gives a general review of the question, and calls attention to Murray's view, that subsidence is not necessary to explain any of the characteristic features of barrier reefs or atolls. They might equally well be produced in regions of rest, or slow elevation as well as depression. The atoll form is taken because the chief supply of food for the coral polyps is on the outer margin, and the rock is carried away from the interior by solution.

— Dr. Cohn of Vienna describes two manuscripts of Dioscorides, on parchment, now in the imperial library at Vienna, which date from the latter half or the fifth century, and are still, for the most part, well preserved. One is known as the Codex Constantinopolitanus, the other as the Codex Neapolitanus; the former having been made for a grand-daughter of Emperor Valentianus III. at Constantinople, afterwards coming into the possession of the Turks, and in 1570 purchased for the imperial library, from the family of a former physician to Sultan Soleiman, for a hundred ducats. It consists of about four hundred folio leaves of fine vellum between worm-eaten wooden covers, with illuminated title, dedication, and other prefatory pictures, followed by the botanical figures and text. Two opposite pages are given to each plant, — on one side the drawing, with the name and synonyms; and on the other, the description in cursive character, without spacing, punctuation, or accent, together with various citations in Arabic, Greek, and Hebrew. The paintings in both codices are evidently copies from the same originals; and though somewhat conventional, and more or less incorrect or imperfect as to details, yet the general and often the specific characters of the plants are preserved in a remarkable degree.

Under the Empress Maria Theresa, and at the instigation of Gerard van Swieten, court physician and librarian, the figures of the Codex Constantinopolitanus were carefully engraved upon copper; but only two impressions are known to have been taken. One of these was sent by order of the empress to Linné, and is now in the possession of the Linnean society of London, in an imperfect condition. The second was given by Joseph Jacquin (or only loaned, as afterward was claimed by Jacquin the younger) to Sibthorpe, from whom it passed by bequest, with the rest of his library and collections, to the University of Oxford, which still holds it.

— The eleventh annual report of the curator of the Museum of Wesleyan university, Middletown, Conn., records some noteworthy accessions to the museum, particularly of Australian marsupials, and of the Sheldon collection of minerals. Attention is called to the fact, that this includes several specimens of the rare mineral samarskite from Portland, Conn. "This mineral, first discovered in the Urals, afterwards found to occur more abundantly in North Carolina, has never hitherto, to the writer's knowledge, been reported from this vicinity."

— At a meeting of the Philosophical society of Washington, March 10, a paper by Mr. M. H. Doolittle, on Substance, matter, motion, and force, elicited an animated discussion. He was followed by Mr. E. B. Elliott, who developed a new formula for the computation of the position of Easter in any year, past or future.

— Rev. E. E. Hale of Boston invites the editor to introduce his wonderful friend, Col. Ingham, to the readers of SCIENCE. In that fabled city of Sybaris, Col. Ingham observed in 1859 a similar contrivance to that mentioned in our summary, paragraph 102. Let us quote him: —

"I sat quite in the front of the car, so that I could see the fate of my first friend, Πλήρες, — the full car. In a very few minutes it switched off from our track, leaving us still to pick up our complement; and then I saw that it dropped its mules, and was attached, on a side-track, to an endless chain, which took it along at a much greater rapidity, so that it was soon out of sight. I addressed my next neighbor on the subject, in Greek which would have made my fortune in those old days of the pea-green settees. But he did not seem to make much of that, but, in sufficiently good Italian, told me, that, as soon as we were full, we

should be attached in the same way to the chain, which was driven by stationary engines five or six stadia apart; and so, indeed, it proved. We picked up one or two market-women, a young artist or two, and a little boy. When the child got in, there was a nod and smile on people's faces. My next neighbor said to me, Πλήρες, as if with an air of relief; and, sure enough, in a minute more we were flying along at a 2.20 pace, with neither mule nor engine in sight, stopping about once a mile to drop passengers, if there was need, and evidently approaching Sybaris." — (*Sybaris and other homes*, pp. 32, 33.)

RECENT BOOKS AND PAMPHLETS.

Continuations and brief papers extracted from serial literature without repagination are not included in this list. Exceptions are made for annual reports of American institutions, newly established periodicals, and memoirs of considerable extent.

Adam, Lucien. Du genre dans les diverses langues. Paris, *Maisonneuve*, 1883. 36 p. 8°.

Bertrand, O. Guide des trois musées du Jardin des plantes. Paris, *Bandot*, 1883. 96 p. 18°.

Cardot, J. Muscinées du département de la Meuse, catalogue des mousses et des hépatiques récoltées aux environs de Stenay et de Montmédy. Montmédy, *imp. Pierrot*, 1883. 42 p. 8°.

Chopy, S., et **Dampierre**, E. de. De la reconstitution des vignobles de la Saintonge à l'aide des plants américains, traitant du greffage du plant américain sur la vigne française phylloxérée. Paris, *Marchal, etc.*, 1883. 28 p. 8°.

Clerke, D. The theory of the gas engine. N.Y., 1883. 160 p. 12°.

Curtis, M. M. The cause of variation. Marshall, Minn., *Author*, 1882. 115 p. 8°.

Dorlhac, J., et **Amiot**. Géologie des bassins houillers de Brioude, de Brassac et de Langeac. Paris, *imp. Quantin*, 1883. 323 p. 4°. 19 pl. f°.

Dubois, A. Histoire naturelle vulgarisée; ornithologie populaire. 4 tom. Limoges, *Barbou*, 1883. 124, 124, 125, 69 p. 12°.

—— La science populaire. Dans les bois, notions populaires d'histoire naturelle. Limoges, *Ardant*, 1883. 304 p. 8°.

Du Moncel, Theodore. Electro-magnets; the determination of the elements of their construction; transl. from 2d ed. N.Y., *Van Nostrand*, 1883. 122 p. 24°.

Echo (l') des inventeurs, journal mensuel illustré, scientifique, littéraire et politique. i. ann. no. i. Marseille, *imp. Blanc*, 1er janv., 1883. 4 p., carte. sm. f°.

Fabre, J. H. Nouveaux souvenirs entomologiques: Études sur l'instinct et les moeurs des insectes. Paris, *Delagrave*, 1883. 359 p. 18°.

Fennel, Otto. Die Wagner-Fennel'schen tachymeter der mathematisch-mechanischen instituts von O. F. in Cassel. Cassel, *Freyschmidt*, 1882. 43 p., 7 pl. 8°.

Foëx, Gustave, et **Viala**, Pierre. Ampélographie américaine. Album des raisins américains des variétés les plus intéressantes cultivées à l'école nationale d'agriculture de Montpellier, photographiés d'après nature par M. S. Isard; 80 à 90 planches phototypiques, accompagnées d'un texte descriptif des cépages et d'une introduction à l'étude de la vigne américaine. Livr. i. Montpellier, *Grollier*, 1883. 2 p., 2 pl. f°.

Fouque, F., et **Lévy**, A. M. Introduction à l'étude des roches éruptives françaises; minéralogie micrographique (Mém. expl. carte géol. France). Paris, *imp. Quantin*, 1883. 6+515 p., illustr. 4°; atlas, 55 pl. 4°.

Gilder, William H. Ice-pack and tundra; an account of the search for the Jeannette and a sledge journey through Siberia. N.Y., *Scribner*, 1883. 10+344 p., illustr., maps. 8°.

Girard, Jules. La Nouvelle-Guinée; historique de la découverte, description géographique, la race papoue, moeurs et coutumes des indigènes, produits du sol, colonisation. Paris, *imp. Levé*, 1883. 55 p. 8°.

Glazebrook, R. T. Physical optics. London, 1883. 448 p. 8°.

Gruey, L. J. Le Stréphoscope universel. Paris, *Chaix*, 1883. 32 p., illustr. 8°.

Harrington, M. W. Report on the mortuary experience of the Michigan mutual life insurance company, from its organization [in 1876] to Jan., 1882. Detroit, *Company*, 1883. 27 p., pl. 8°.

Houghton Farm experiment department. Agricultural physics, 1882. Series i. nos. 1 and 2. Meteorology and soil temperatures, by D. P. Penhallow. Newburgh, *Ritchie & Hull, pr.*, [1883]. 57 p., 5 pl. 8°.

In memory of William Barton Rogers, late president of the society. Boston, *Society of arts*, 1882. 39 p., portr. 8°.

Iowa weather service annual, 1883. Iowa City, *Central Station*, 1883. 44 p., illustr. 8°.

Jeffries, Benjamin Joy. Color-blindness; its dangers and its detection. *Rev. and enl. ed.* Boston, *Houghton, Mifflin, & Co.*, 1883. 18+334 p. 12°.

Kleinenberg, N. Carlo Darwin e l'opera sua. Messina, 1882. 31 p. 16°.

Langlebert, J. Applications modernes de l'électricité; nouvelles machines magnéto-électriques et dynamo-électriques; éclairage électrique; telephone etc. Paris, 1883. 106 p., illustr. 12°.

Lommel, Th. G. Examen critique des nouveaux essais de tracé entrepris sous les auspices de la Compagnie Suisse Occidentale-Simplon pour la rampe d'accès méridionale du tunnel alpin du Simplon. Lausanne, 1883. 73 p., carte, tracé. l. 8°.

Luke, A. Sammlung trigonometrischer aufgaben nebst eine anleitung zur lösung derselben. Heft 1: Goniometrische aufgaben. Halle, 1883. 8°.

Lyman, Benjamin Smith. On the utility of the Pennsylvania state geological survey in the anthracite field. Read [by title] before the American institute of mining engineers, Feb. 23, 1883. *n.p., n.d.* 8 p. 8°.

Menant, J. Empreintes de cachets Assyro-Chaldéens relevés au Musée britannique sur des contrats d'intérêt prive. Paris, *Maisonneuve*, 1883. 51 p., illustr. 8°.

Métallurgiste (Le), organe des chambres syndicales ouvrières, de la métallurgie. i. ann. no. i. Lille, *imp. Ragache*, 17 Dec., 1882. 4 p. sm. f°.

Montreal. — McGill university. Report on the Peter Redpath museum. No. ii. [Montreal], 1883. 22 p. 8°.

Morris, Herbert W. The celestial symbol interpreted; or the natural wonders and spiritual teachings of the sun, as revealed by the triumphs of modern science. Phil., *McCurdy*, 1883. 704 p. 8°.

Natura. Maandschrift voor Natuurwetenschappen. Jaarg. i., Gent, 1883. 8°.

Penn. — Second geological survey. Report of the board of commissioners to the legislature, Jan. 1, 1883. *n.p., n.d.* 7 p., map. 8°.

Pisani, F., et **Dervell**, P. La chimie du laboratoire. Paris, *Ballière*, 1883. 402 p. 18°.

Poulsen, V. A. Microchemie végétale, guide pour les recherches phyto-histologiques, à l'usage des étudiants; trad. par J. P. Lachman. *Ed. franç.* considerablement augmentée (en collaboration avec l'auteur). (Bibl. biol. intern.) Paris, *Doin*, 1883. 20+119 p. 18°.

Révoil, B. H. A travers les prairies; les peaux-rouges de l'Amérique du Nord; excursions, chasses, etc. Limoges, *Ardant*, 1883. 304 p. 8°.

—— Au pôle et sous les tropiques, histoires recueillies par un voyageur autour du monde. Limoges, *Barbou*. 288 p. 8°.

—— Voyage autour du monde, histoire recueillies par un voyageur. Limoges, *Barbou*, 1883. 144 p. 8°.

Schröter, C. Die flora der eiszeit. Zürich, *Wurster*, 1882. 41 p., pl. 4°.

Scudder, Samuel H. The pine moth of Nantucket, Retinia frustrana. (Publ. Mass. soc. prom. agric.) Boston, *Williams*, 1883. 22 p., pl. 8°.

Smith, J. Alden. Report on the development of the mineral, metallurgical, agricultural, pastoral, and other resources of Colorado for the years 1881 and 1882. Denver, *Chain & Hardy*, 1883. 159 p. 8°.

Southarck, Albert P. Question book of zoölogy with notes, queries, etc. Syracuse, *Bardeau*, 1883. 40 p. 16°.

—— *The same* of chemistry. 37 p.

—— *The same* of geology and mineralogy. 36 p.

Teissier, François. Les merveilles et les mystères de l'océan, ou Voyage sous-marin de Southampton au Cap Horn. Limoges, *Ardant*, 1883. 240 p. 8°.

Vilmorin-Andrieux. Les plantes potagères; description et culture des principaux légumes des climats tempérés. Paris, *imp. Molteroz*, 1883. 16+652 p. 8°.

Woelmont, A. de. Souvenir du Far-West. Paris, *Plon*, 1883. 275 p. 18°.

Wrangell, *amiral de*. Le nord de la Sibérie, voyage parmi les peuplades de la Russie asiatique et dans la mer glaciale; trad. par le prince E. Galitzin. Limoges, *Ardant*, 1883. 304 p. 8°.

Williams, W. Matthieu. Discussions in current science. N.Y., *Fitzgerald*, 1883. 48 p., illustr. 8°.