DEPARTMENT OF THE INTERIOR

BULLETIN

OF THE

UNITED STATES

GEOLOGICAL SURVEY

No. 7

A CATALOGUE OF GEOLOGICAL MAPS RELATIVE TO NORTH AND SOUTH AMERICA

WASHINGTON
GOVERNMENT PRINTING OFFICE
1884

ADVERTISEMENT.

(Bulletin 7.)

The publications of the United States Geological Survey are issued in accordance with the statute approved March 3, 1879, which declares that—

"The publications of the Geological Survey shall consist of the annual report of operations, geological and economic maps illustrating the resources and classifications of the lands, and reports upon general and economic geology and paleontology. The annual report of operations of the Geological Survey shall accompany the annual report of the Secretary of the Interior. All special memoirs and reports of said Survey shall be issued in uniform quarto series if deemed necessary by the Director, but otherwise in ordinary octavos. Three thousand copies of each shall be published for scientific exchanges and for sale at the price of publication; and all literary and cartographic materials received in exchange shall be the property of the United States and form a part of the library of the organization. And the money resulting from the sale of such publications shall be covered into the Treasury of the United States."

On July 7, 1882, the following joint resolution, referring to all Government publications, was passed by Congress:

"That whenever any document or report shall be ordered printed by Congress, there shall be printed, in addition to the number in each case stated, the "usual number" (1,900) of copies for binding and distribution among those entitled to receive them."

Under these general laws it will be seen that none of the Survey publications are furnished to it for gratuitous distribution. The 3,000 copies of the Annual Report are distributed through the document-rooms of Congress. The 1,900 copies of each of the publications are distributed to the officers of the legislative and executive departments, and to stated depositories throughout the United States.

Except, therefore, in those cases where an extra number of any publication is supplied to this office by special resolution of Congress, as has been done in the case of the second, third, fourth and fifth Annual Reports, or where a number has been ordered for its use by the Secretary of the Interior, as in the case of Williams's Mineral Resources, the Survey has no copies of any of its publications for gratuitous distribution.

ANNUAL REPORTS.

Of the Annual Reports there have been already published:

I. First Annual Report to the Hon. Carl Schurz, by Clarence King. 1880. 8°. 79 pp. 1 map. A preliminary report describing plan of organization and publications.

II. Report of the Director of the United States Geological Survey for 1880-'81, by J. W. Powell. 1882. 8°. lv, 588 pp. 61 pl., 1 map.

III. Third Annual Report of the United States Geological Survey, 1881-'82, by J. W. Powell. 1883. 8°. xviii, 564 pp. 67 pl. and maps.

IV. Fourth Annual Report of the United States Geological Survey, 1882-'83, by J. W. Powell. 1884. 8°. xii, 473 pp. 85 pl. and maps.

The Fifth Annual Report is in press.

MONOGRAPHS.

So far as already determined upon, the list of the Monographs is as follows:

I. The Precious Metals, by Clarence King. In preparation.

II. Tertiary History of the Grand Cañon District, with atlas, by Capt. C. E. Dutton. Published.

III. Geology of the Comstock Lode and Washoe District, with atlas, by George F. Becker. Published.

IV. Comstock Mining and Miners, by Eliot Lord. Published.

V. Copper-bearing Rocks of Lake Superior, by Prof. R. D. Irving. Published.

VI. Older Mesozoic Flora of Virginia, by Prof. William M. Fontaine. Published.

VII. Silver-lead Deposits of Eureka, Nevada, by Joseph S. Curtis. Published.

VIII. Paleontology of the Eureka District, Nevada, by Charles D. Walcott. In press.

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IX. Brachico poda and Lamelli branchieta of the Green Marls and Clays of New Jersey, by R. P. Whitfield.

Geology and Mining Industry of Leadville, with atlas, by S. F. Emmons. In preparation.

Geology of the Eureka Mining District, Nevada, with atlas, by Arnold Hague. In preparation.

Lake Bonneville, by G. K. Gilbert. In preparation.

Dinocerata: A Monograph on an Extinct Order of Ungulates, by Prof. O. C. Marsh. In preparation.

Sauropoda, by Prof. O. C. Marsh. In preparation.

Stegosauria, by Prof. O. C. Marsh. In preparation.

Of these Monographs, Nos. II, III, IV, V, VI, and VII are now published, viz:

II. Tertiary History of the Grand Cañon District, with atlas, by C. E. Dutton, Capt. U. S. A. 1882. 4°. 264 pp. 42 pl. and atlas of 26 double sheets folio. Price, $10.12.

III. Geology of the Comstock Lode and Washoe District, with atlas, by George F. Becker. 1882. 4°. xv, 422 pp. 7 pl. and atlas of 21 sheets folio. Price, $11.

IV. Comstock Mining and Miners, by Eliot Lord. 1883. 4°. xiv, 451 pp. 3 pl. Price, $1.50.

V. Copper-bearing Rocks of Lake Superior, by Prof. R. D. Irving. 1883. 4°. xiv, 464 pp. 29 pl. Price, $—.

VI. Contributions to the Knowledge of the Older Mesozoic Flora of Virginia, by William M. Fontaine. 1883. 4°. XIX, 144 pp. 54 l., 54 pl. Price, $—.

VII. Silver-lead Deposits of Eureka, Nevada, by Joseph S. Curtis. 1884. 4°. XII, 200 pp. 15 pl. Price, $—.

Nos. VIII and IX are in press and will soon appear. The others, to which numbers are not assigned, are in preparation.

BULLETINS.

The Bulletins of the Survey will contain such papers relating to the general purpose of its work as do not properly come under the heads of ANNUAL REPORTS or MONOGRAPHS.

Each of these Bulletins will contain but one paper, and be complete in itself. They will, however, be numbered in a continuous series, and will in time be united into volumes of convenient size. To facilitate this each Bulletin will have two paginations, one proper to itself and another which belongs to it as part of the volume.

Of this series of Bulletins Nos. 1, 2, 3, 4, 5, 6, 7, and 8 are already published, viz:

1. On Hypersthene-Andesite and on Triblinic Pyroxene in Augitic Rocks, by Whitman Cross, with a Geological Sketch of Buffalo Peaks, Colorado, by S. F. Emmons. 1883. 8°. 40 pp. 2 pl. Price, 10 cents.

2. Gold and Silver Conversion Tables, giving the Coining Value of Troy Ounces of Fine Metal, &c., by Albert Williams, jr. 1883. 8°. ii, 8 pp. Price, 5 cents.

3. On the Fossil Faunas of the Upper Devonian along the Meridian of 76° 30′, from Tompkins County, New York, to Bradford County, Pennsylvania, by Henry S. Williams. 1884. 8°. 36 pp. Price, 5 cents.

4. On Mesozoic Fossils, by Charles A. White. 1884. 8°. 36 pp. 9 pl. Price, 5 cents.

5. A Dictionary of Altitudes in the United States, compiled by Henry Gannett. 1884. 8°. 325 pp. Price, 20 cents.

6. Elevations in the Dominion of Canada, by J. W. Spencer. 1884. 8°. 43 pp. Price, 5 cents.

7. Mapoteca Geologica Americana. A Catalogue of Geological Maps of America (North and South) 1752–1881, by Jules Marcou and John Belknap Marcou. 1884. 8°. 184 pp. Price, 10 cents.

STATISTICAL PAPERS.

A fourth series of publications, having special reference to the mineral resources of the United States, is contemplated. Of that series the first has been published, viz: Mineral Resources of the United States, by Albert Williams, jr. 1883. 8°. xvii, 813 pp. Price, 50 cents.

Correspondence relating to the publications of the Survey, and all remittances, which must be by postal note or money-order, should be addressed to the

DIRECTOR OF THE UNITED STATES GEOLOGICAL SURVEY,
Washington, D. C.

WASHINGTON, D. C., *August* 30, 1884.

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UNITED STATES GEOLOGICAL SURVEY
J. W. POWELL DIRECTOR

MAPOTECA GEOLOGICA AMERICANA

A CATALOGUE

OF

GEOLOGICAL MAPS

OF

AMERICA (NORTH AND SOUTH)

1752–1881

IN GEOGRAPHIC AND CHRONOLOGIC ORDER

BY

JULES MARCOU and JOHN BELKNAP MARCOU

WASHINGTON
GOVERNMENT PRINTING OFFICE
1884

CONTENTS.

CONTRACTIONS USED IN REFERENCES.

Where not otherwise stated, the geological maps are in colors, and the works containing them are in octavo.

When a map contains a part of countries belonging to other great geographical divisions, as adopted in this catalogue, it is always placed in the division embracing most of its area. For instance, the "Carte géologique des bords du Lac Champlain," embracing parts of Vermont, New York, and Canada, is put in New England, because it covers more of Vermont than it does of Canada or New York, but in the index of places New York and Canada are referred to as countries contained in the map.

In the chronological order, when no question of priority is involved, the maps of the same year are classified in the alphabetical order of their authors.

Amer. Journ. Silliman.—The American Journal of Science and Arts. New Haven, Conn.

Ann. New York Acad. Sci.—Annals of the New York Academy of Science. New York.

Bull. Soc. Géol. France.—Bulletin de la Société Géologique de France. Paris.

Geol. Surv. Canada.—Geological Survey of Canada.

2d Geol. Surv. Pennsylvania.—Second Geological Survey of Pennsylvania.

Journ. Acad. Nat. Sciences.—Journal of the Academy of Natural Sciences of Philadelphia. 4to. Philadelphia.

Journ. Geol. Soc. London.—The Quarterly Journal of the Geological Society of London.

Mem. Mus. Comp. Zoöl. at Cambridge.—Memoirs of the Museum of Comparative Zoölogy at Cambridge, Mass.

Proc. Acad. Nat. Sciences.—Proceedings of the Academy of Natural Sciences of Philadelphia.

Proc. Amer. Phil. Soc.—Proceedings of the American Philosophical Society held at Philadelphia for promoting Useful Knowledge.

Trans. Amer. Phil. Soc.—Transactions of the American Philosophical Society held at Philadelphia for promoting Useful Knowledge. 4to.

Trans. Amer. Inst. Mining Engrs.—Transactions of the American Institute of Mining Engineers. Easton, Pa.

Trans. Lit. and Hist. Soc. Quebec.—Transactions of the Literary and Historical Society of Quebec.

Trans. North of England Inst. Mining Engrs.—Transactions of the North of England Institute of Mining and Mechanical Engineers. Newcastle-upon-Tyne.

U. S. Geol. and Geogr. Surv. Territories.—United States Geological and Geographical Survey of the Territories. Washington.

Zeitsch. Deut. Geol. Gesells.—Zeitschrift der Deutschen Geologischen Gesellschaft. Berlin.

INTRODUCTION.

The late Uricoechea, of Bogota, when he offered me a copy of his "Mapoteca Colombiana[1]" said: "I hope that the study of this catalogue may lead you to undertake another one on the geological maps of America. Our views on the ancient geography of the world discovered by Columbus, and on the aboriginal or Indian origin of the name America,[2] are so harmonious, and geology being the history of the earth, a catalogue of all the geological maps published on America will be an important chapter in the history of Columbian cartography."

I have now endeavored to fulfill the wish of my friend. Taking for a model his "Mapoteca Colombiana," a work which is out of print and has become rare, I have united in chronologic and geographic order all the maps relating to American geology known to me.

In general, catalogues of maps are not numerous. Those of geological maps only are very rare. I know of only one purporting to comprise the maps of all the world; it is the "Geognostische Karten unseres Jahrhunderts." Zusammengestellt von Bernhard Cotta, Freiberg (Saxony), 1850. 8vo of only 60 pages. The author, although he has placed in it maps pertaining purely to physical geography, such as the geographical distribution of volcanoes, has only succeeded in enumerating 571 geognostical maps. America is placed in the last division "VI. Ausser-Europa," and its geological maps are united with those of Asia, Africa, Australia, and Oceania. All these large geographical divisions outside of Europe have but 53 numbers, of which 30 belong to maps on the geology of America; and several of the numbers indicate memoirs without geological maps properly so called, and some even without any kind of a map; for instance, No. 525, Finch "Karte de Gegend von Boston," in Silliman's Journal of Science, Vol. VIII, 1824, which does not exist, and is merely an error of the compiler.

Besides the catalogue of Cotta, the only list of geological maps of America is the "list of general geological maps relating to North America" in the "Geology of North America," by Jules Marcou, Chapter X, p. 122. 4to. Zurich, 1858. The author enumerates 23 general geological maps, in chronologic order, each comprising at least two States.

Two of the geological surveys of the United States, Dr. Hayden's and

[1] "Mapoteca Colombiana, Coleccion de los Titulos de Todos los Mapas, Planos, Vistas, etc., relativos a la America española, Brasil e Islas adyacentes." 8vo. Londres, 1860.

[2] "Origin of the name America," by Jules Marcou. Atlantic Monthly, March, 1875.

the one directed by Captain Wheeler, have given catalogues of publications, reports, and maps, in which are lists of a part of the geographical maps published by these surveys. The geological survey of Canada also has published a list of its maps.

For the last forty years especially, geological maps on America have accumulated in large numbers, thanks to the geological surveys instituted either by the general governments or by States and Provinces. The United States, Canada, Mexico, Chili, and a large number of States and Provinces have rivaled each other in this field of science. Memoir after memoir, map after map, has been produced to show the geological structure of countries which yesterday were unknown, but to-day are marshaled in the scientific movement which carries forward in its progress all the nations of the world.

Geology, properly so called, dates only from this century; in the preceding one a few maps, rather mineralogical, than geological, appeared. Such are the maps of L. Coulon in 1664; of Guettard in 1746; of Monnet on France in 1780; of Guettard on North America in 1752; of von Charpentier the elder on Saxony in 1778; of Becker on the Grand Duchy of Nassau in 1778; of von Buch on Silesia in 1797; of Hein on the Thüringen Waldes in 1799; of Christopher Packe on East Kent in 1743; of R. Frazer and J. Billingsley on Devonshire and Somerset in 1794; of Maton on the Western Counties (England) in 1797.

The first geological map is due to the abbé L. Coulon, Paris, 1664. It appeared in a little volume entitled, "Les Rivières de France," a very rare work, of which but very few copies exist in the libraries of Paris. In 1683 Martin Lister read a paper before the Royal Society of England entitled, "An ingenious proposal for a new sort of maps of countries; together with tables of sands and clays, such as are chiefly found in the north part of England"; in Phil. Trans., Vol. XIV, p. 739. London, 1684. But it was only a project, which Lister did not carry into execution. The first geological map published in England is dated 1743, almost a century after Coulon's little geological map of France; its title is, "A new Philosophico-chorographical chart of East Kent, invented and delineated by Christopher Packe, M. D." Scale rather more than an inch and a half to the mile, comprising a circle of about 32 miles around Canterbury.

To the celebrated Abraham Gottlob Werner is due, in great part, the coloring of geological maps; for before him several older German mineralogists had used an analogous process. Werner greatly improved not only the classification but also the plan of coloring, and proposed a method "of representing the several formations in distinct, but sober hues, and marking the superior rock by a narrow band of deeper color, along the lines of its contact with the subjacent one" (Dr. Fitton's Notes on the History of English Geology, London, 1833). This method of coloring was employed chiefly in Germany, in German Switzerland, a little in Scandinavia, and in England; never in France or in America.

As early as 1810 Cuvier and Brongniart, in their celebrated "*Carte Géognostique des environs de Paris*," used even tints without a "band of deeper color along the line of contact."

William Maclure, who, though a pupil of Werner, was also well acquainted with the French geological school, colored his first geological map of the United States in 1809 with even tints. Since 1832 the German school as well as the English has adopted even tints.

Curiously enough the first edition of his geological map of the United States appeared without the name of Maclure, and is sometimes credited to Samuel G. Lewis, the draftsman who compiled the geographical map on which Maclure put his geological classification and colors. This mistake and the use of a drawing by Lewis were due "to the absence (from America) of the author of "*Observations on the Geology of the United States, explanatory of a Geological Map*," read before the American Philosophical Society at Philadelphia January 20, 1809.

From 1809 to 1842 all the geological maps published on America were executed in a manner which leaves much to be desired in respect to coloring, and still more in regard to the classification of the rocks. It is only after the appearance of the "*Geological Map of the State of New York*" in 1842 that maps really possess great interest either from the value of their classifications or from the mechanical execution.

The same year a geological map of great importance, both on account of the difficulties presented by the region explored, the most elevated of the Andes, and of its central position in South America, was published by Alcide d'Orbigny under the title "*Carte Géologique de la République de Bolivia*." From that time nearly all the great geological and paleontological horizons of the New World were accepted as established, though geologists hesitated for a few years about the acceptance of the existence of several systems of stratified rocks, and also about the identification of certain paleontological horizons.

Between 1842 and 1862 there appeared a great number of geological maps of regions limited either to single countries or parts of countries, or even to a single county, or a portion of one, as well as several attempts at general maps of North America, of South America, and even of both Americas together. However, all of them have an essentially temporary character, and are geological reconnaissances. Nothing truly studied in detail and with care had then appeared. This was owing to several causes. First the total absence of good topographical maps, and often even the absence of any kind of a map, geologists being obliged to make them themselves, in order to draw and color the systems of rocks. Then the vast surfaces to be studied, the great distances to be traversed before reaching the ground to be explored, the difficult and primitive modes of transportation before the construction of lines of railroads, the wilderness and the deserts of most central continental regions, and finally the unhealthy climate of the tropics and the banks of the great rivers. All these obstacles have conspired to render

researches difficult, and to give them the character of simple geological reconnaissances. In new countries, the first thing is to obtain a sketch approximating to the truth, and afterwards to proceed to detailed studies.

It was during this period, from 1842 to 1862, that the system of coloring geological maps underwent a complete change. Till then everything was done by hand, and seldom with care. Maps were colored rapidly, and tints varied not only from one copy to another, but also on the same map, some parts being a shade lighter or darker than others; besides, traces left by the brushes added to the imperfection of the work. Finally, the overlapping of one color on another at the limits of the different systems delineated on the map often took such alarming proportions that it was impossible to tell to what formation considerable belts of country were referred. It was only by the skill derived from practice that the defects of hand-coloring were much diminished. It may be said that the geological survey of the United Kingdom of Great Britain and Ireland attained the highest possibilities of the method by forming a special corps of colorists who did nothing else for years, and by being very strict in the acceptance of the colored sheets, every one that had an apparent defect being invariably rejected.

As early as 1841 attempts at colored printing had been tried by Major Le Blanc, chief of the office of topographical engineers at Paris. This was his method: He used a sheet of tin-foil similar to that employed in the manufacture of looking-glasses, on which he fixed a proof of the map or geological section which he wished to reproduce. They were then cut out simultaneously, which gave a tin pattern of the formation. Then the color was placed on it by means of brushes prepared for the "lucidonique" method of painting, and the maps were printed under a press. This method from the first secured promptness, exactness, and cheapness of coloring.

The first sheet colored by this system of "poncis découpés," with mechanical impressions, represents "*Coupes géologiques et topographiques des environs de Paris*," made for the use of the military engineers, in the location of the fortifications of Paris, created under Louis Philippe. Shortly afterward Messrs. Le Blanc and Raulin undertook to color by this system a geological map in one sheet, "grand aigle," which appeared in 1843 with the title "*Carte géognostique du Plateau tertiaire Parisien*," by Victor Raulin. Then Major Le Blanc undertook the impression in colors of the "*Carte géologique du globe terrestre*," by Boué, in one sheet. It is dated Paris, 1845, and bears this note: "Sous les auspices et la direction de la Société géologique de France par les soins et procédés de M. Le Blanc, vice-secrétaire." The execution took longer than was expected, and the map was not given to the public until the spring of 1846. The results obtained were quite defective, both as to the character of the colors, and exactness in outline, several colors either failing to meet or overlapping each other. However, these first

attempts were quite encouraging; especially as the cost was much less than by the hand process.

In April, 1846, I offered to the *Société géologique de France* for publication in its memoirs, my work entitled "*Recherches géologiques sur le Jura Salinois*," with a geological map of the country round Salins, scale 1:80,000, taken from the "*Carte dite d'État-Major.*" Having been accepted by the committee on publications, Major Le Blanc offered to try his process of mechanical coloring, his offer was accepted, and my geological map of the Jura Salinois was the first printed in color that appeared in the publications of the *Société géologique de France.* The execution occupied 1846 and 1847, and the memoir, with the map, appeared in January, 1848. It has the same defects as the map of Boué, only they are more prominent because of the large scale.

The multiplication of geological maps, and the difficulties of satisfactory and rapid coloration by hand, rendered the invention of improved methods more and more important. Dufrénoy and Élie de Beaumont, after the publication of their great geological map of France in six sheets, began the trial of lithographic coloring at the Royal press of Paris, on a map called: "*Tableau d'assemblage des six feuilles de la carte géologique de France*," in a single sheet, scale of 1:2,000,000. Previously this "*Tableau d'assemblage*," colored by hand, had been placed at the end of the first volume, 4to, of the "*Explication de la carte géologique de France*," 1841. The copies of this volume distributed from 1841 to 1853 all contain this map colored by hand. But after 1853, or at the beginning of 1854, there appeared at the end of the volume which still bears the date: "*Paris, Imprimerie Royale, MDCCCXLI*," the map of the "*Tableau d'assemblage*," with the inscription to the right at the bottom of the map; "*Lithographie de l'Imprimerie Imperiale.*" This chromolithographic map of the imperial press was a success; the colors are brilliant and uniform and do not overlap each other. All the copies of Volume I of the "*Explication de la carte géologique de France*," of Dufrénoy and Élie de Beaumont, since distributed, have this chromolithographic map.

Before we leave the "Imprimerie Nationale de France" let us mention the beautiful geological maps that have been made there, and whose execution has nowhere been surpassed, not even in these last years of progress of chromolithography. First, the "*Carte géologique de la Belgique et des contrées voisines*" by André Dumont, one sheet, 1855, a real masterpiece of coloring, especially if we consider the numerous superpositions of simple colors, which determine the greater part of the *forty-two* different tints of the *tabular view* of the map. The "*Carte géologique de l'Europe*," also by André Dumont, in four sheets, 1855–1857, is another fine example of coloring, far superior to the one made at the same time at Edinburgh by Keith Johnston for Sir Roderick Murchison's and Nicol's "*Geological Map of Europe*" in four sheets, 1856. Finally, the maps of the *État-Major*, scale of 1 : 80,000, used by the service of the

"*Carte géologique détaillée de la France*" have been colored by chromolithography since 1877, instead of coloring by hand employed up to that time.

Many improvements have been added to the first methods employed in 1854. The most important consists "in placing on metal by putting in relief the sheets of a map, and in operating the impression in colors under the *typographical presses.*" From the Imperial press, chromolithography soon extended to private industry. In Paris, Messrs. Lemercier & Cie. printed chromolithographically, in May, 1855, the "*Carte géologique des États-Unis et des Provinces anglaises de l'Amérique du Nord,*" by Jules Marcou, and in August the "*Carte géologique du Canada,*" by W. E. Logan.

In Germany analogous attempts, by means of lithographical impressions in oil colors were made at the same time. In 1842 two chromolithographic geological maps appeared, namely: "*Carte géognostique du Taurus et de ses environs,*" in folio, by M. J. Russegger, published at Stuttgart; and the geological wall map of Germany by Woelter, published at Eslingen (Wurtemberg). Then in 1845 another chromolithographical map by Major Heinrich Bach, representing the geology of Wurtemberg, appeared also at Stuttgart. All these maps, as well as those that followed, show great defects, both on account of lack of clearness in the colors, all being too dark, and bad registration.

Chromolithographic geological maps appeared in Berlin and in Vienna in 1851, in the "*Zeitschrift der deutschen geologischen Gesellschaft*" and in the "*Jahrbuch der k. k. geol. Reichsanstalt.*" In 1853 in Switzerland, at Winterthur, J. Wurster & Cie. chromolithographed the "*Carte géologique de la Suisse,*" by B. Studer and A. Escher de la Linth. Several of the shades in this map were put on by hand, so that it was a sort of hybrid between the two systems.

In 1854, Justus Perthes, in Gotha, published a very well executed chromolithographical map, "*Geognostische Karte des Thüringer Waldes,*" by H. Credner, lithographed by C. Hellfarth; and, in the same year, a map also very well executed, "*Geognostische Karte von Kurhessen,* by A. Schwarzenberg and H. Reusse, lithographed by C. Kegel, of Cassel. The last one, especially, is a success, the coloring being but little inferior to that of the geological map of France of 1853.

In America the systems of color-printing replaced but slowly the hand processes. The late A. Sonrel, the well-known draftsman of Louis Agassiz, tried a system analogous to that of Major Le Blanc, and in 1853 he successfully executed a little geological map, which appeared in a public document of the Commonwealth of Massachusetts, entitled: "*Report on certain points in the geology of Massachusetts,*" by Edward Hitchcock. The map has no title, date, or place of publication, and no name of the engraver or printer. It embraces the coal field of Bristol County and of Rhode Island.

Sonrel's system consisted in cutting slips of card-board to correspond exactly with each color. These were then accurately glued to a wooden base and color applied to them by a printer's cylinder. An impression from them was then taken by a lithographic press.

In 1855 J. H. Colton & Co., of New York, engraved and printed in colors the "*Geological map of the State of Alabama*," accompanying the "Second biennial report of the geology of Alabama", which did not appear until in 1858, owing to the death of M. Tuomey, State geologist. Messrs. Colton & Co. also engraved and printed in colors the numerous maps of Oscar M. Lieber, geologist of South Carolina from 1856 to 1860.

About 1868, thanks to the celebrated cartographical house of Julius Bien, of New York, chromolithography at last came into general use in the United States for coloring geological maps. Several of the maps made by Bien are irreproachably executed and compare favorably with those made at Vienna, Munich, Berlin, Paris, London, and Bruxelles. During the civil war in the United States there was a great falling off in the publication of geological maps on that portion of America. But shortly after its termination, a new impulse of unprecedented strength, caused not only the resumption of interrupted works, but also the birth of many new ones. The Federal Government took the lead by causing the exploration of a part of the immense territories of the West. Excellent results have already been obtained, and the important geological atlases published during the last few years under the direction of Messrs. Clarence King, F. V. Hayden, J. W. Powell, and George M. Wheeler, are an honor to the Government of the United States, and to the geologists who constructed them. The States of Michigan, Wisconsin, Ohio, Missouri, New Hampshire, and Pennsylvania have also published large geological atlases, well executed in chromolithography. The Dominion of Canada has continued with improved success its publication of geological maps of the British Possessions in North America. Finally, British Guiana, Brazil, the Argentine Republic, and Chili have undertaken geological surveys, which, in the last twenty years, have largely augmented our knowledge of the geology of South America. The geological map of Chili, in thirteen sheets, by Pissis, published chromolithographically in Paris, compares favorably with any atlas published in North America.

Geological mapping in this country was greatly improved between 1862 and 1881, without, however, attaining that degree of perfection reached by the old and very detailed geological surveys of England, France, Switzerland, Belgium, Austria, Prussia, or Scandinavia. Although the latest geological publications on America are very superior to those which preceded them, there has not been executed a geological survey of any large area that is really final, or that leaves but little to be corrected in the future. With limited exceptions, all are geological reconnaissances, which still demand many years of work to transform them into definite and completed studies. However,

what exists already is enormous in importance and in extent, when we consider the immense stretch of land explored, from the Arctic to the Antarctic regions.

In judging the results obtained by the efforts of, after all, a rather small band of field geologists, we must not lose sight of the fact that America occupies a hemisphere, and that, compared with the Old World, the New is better known geologically, and has far less blank space on a general geological map than Asia, Africa, or Australia.

In looking over this catalogue, one will often be struck by certain peculiarities in the maps cited. Some are anonymous, others have no titles, some have no date, others have no scale, or a scale which has to be figured out to understand it exactly; in this case we have not cited the scale. Often no place of publication is given; even whole geological atlases are without such designation. Very often the date on the map does not correspond to the date of the book or memoir which describes it; in which case I have mentioned both dates, first that of the map and then that of the book. Finally, I have had to eliminate a certain number of maps called geological in their titles, which really have nothing geological about them. I have also neglected citing very small maps reduced from larger ones, which authors of elementary books have inserted in their texts in black engravings or wood cuts; for they are all reproductions—often very poor ones—of maps made by original observers, whose names are neither on these maps nor in the texts. They are merely for the use of the general public and student, and are without value in the history of science. Unfortunately no kind of publication offers greater temptations for appropriating the work of others without proper credit, than a geological map. It is offered in excuse that the knowledge belongs to the public, but geologists who respect the property of their fellow-workers, and who know that often the only recompense of very difficult work, without any pecuniary remuneration whatever, is the reputation derived from it, do not fail to cite the name or the names of the first explorers or investigators, either on the maps or in the explanatory text, or in both. Too often this simple rule of justice is violated, and numerous acts of real scientific piracy exist in geological cartography. The persons most often guilty of it are mining engineers, geographers, and travelers. Thus, one often finds in the narrative of a voyage, or in mining magazines, large geological maps, well colored and tolerably exact, with the name of an author wholly unknown in geology. If these maps are compared with those of the geologists who have made a study of the countries represented, it is surprising to find that they are exact copies, so exact indeed that they repeat faults known only to their authors. In this case the evil is not great, for every one rectifies the error and places the name of the true author in the place of that of the unscrupulous compiler.

But it is not the same thing when the author of the compilation is a known geologist. It then becomes very difficult to know what really

belongs to the geological predecessors and pioneers whose works have been appropriated without citing them. But very few scientists are capable of re-establishing the truth, and often when they know it they dislike to make it public and expose the piracy of a fellow scientist. The only remedy for this evil is the reputation which each one possesses in science. He who respects and cites all the maps and works of his predecessors is sure of having the reputation of an honest observer, even when his works are disagreeable to some of his co-laborers. While he who appropriates right and left the works of others is soon known and cited as an unscrupulous compiler, and of doubtful standing as a geologist.

Almost all the geological maps cited in this "Mapoteca" are in my library—especially all the pioneer maps, a few of which are very rare, and command a high price.

The public libraries of Cambridge and of Boston have allowed us to complete what we lacked. There is only a very small number of maps, hardly a dozen, that I have not seen, and in this case I have always added the word *unseen*. Some of these even I have seen in European libraries nearly thirty years ago, at a time when I did not think of making a catalogue.

Notwithstanding all the care and diligence with which I have searched for years, a number of geological maps of America must have escaped me, as happens in all catalogues, but I believe that nothing important will be found wanting.

This list stops with the year 1881, inclusive.

JULES MARCOU.

CAMBRIDGE, MASS., *September*, 1882.

I. — AMERICA IN GENERAL, COMPRISING BOTH NORTH AND SOUTH AMERICA.

1.

1843—Boué (Ami). Carte géologique du globe terrestre. Paris, 1845.

In one sheet only. America is colored geologically, with the data then known, which covered only about one-twelfth of the whole continent. The rest is mere conjecture. It is a bold attempt at generalization with a small basis of facts. It was republished by Edward Hitchcock, without the name of Boué, under the title of "Outline of the geology of the globe." 1853. Accompanying "Outline of the geology of the globe, and the United States in particular", by Edward Hitchcock. Boston, 1854. *

An English edition, by A. K. Johnston, appeared in 1855 in his Physical atlas of natural phenomena, Plate I, under the title "The geological structure of the globe according to Ami Boué." Edinburgh, 1855.

A German edition, in Berghaus Physikalischer Atlas, appeared in 1856? Plate 9, under the title "Geologische Erdkarte nach Ami Boué und K. John ston von Traugott Bromme." Stuttgart, 1856?

2.

1848—Taylor (R. C.). Chart showing the position of the coal fields on the surface of the globe.

Accompanying "Statistics of coal." Philadelphia, 1848.

A second edition was published by Haldeman.

3.

1849—Buch (Leopold von). Die Verbreitung und die Greuzen der Kreide-Bildungen. Mercator projection.

Accompanying "Betrachtungen über die Verbreitung und die Greuzen der Kreide-Bildungen"; Verhandlungen des naturhistorischen vereins der Preussischen Rheinlande und Westphalens. Bonn, 1849.

A very small map, showing, in black etching, the geographical distribution of the cretaceous rocks in North and South America. Also issued separately.

4.

1853—Hitchcock (Edward). Outline of the geology of the globe.

Accompanying "Outline of the geology of the globe, and the United States in particular." Boston, 1854.

See **Boué** (Ami), 1843—No. 1.

5.

1855—Boué (Ami). The geological structure of the globe according to Ami Boué.

Accompanying "Physical atlas of natural phenomena", by A. K. Johnston, Plate I. Edinburgh, 1855.

See **Boué** (Ami), 1843—No. 1.

* C. H. Hitchcock read a paper entitled The Geological maps of the United States, before the American Institute of Mining Engineers, at the St. Louis Meeting, October 1886, and in a foot-note on Page 15 [illegible]

6.

1856—Boué (Ami) and **Johnston** (K.). Geologische Erdkarte nach Ami Boué und K. Johnston von Traugott Bromme.

Accompanying "Berghaus Physikalischer Atlas," Plate IX. Stuttgart, 1856?

See **Boué** (Ami), 1843—No. 1.

7.

1860—Marcou (Jules). Geological map of the world Carte géologique de la terre. Scale 1: 23,000,000. Winterthur (Switzerland), 1861.

In eight sheets. In this map localities of which the geology was unknown were left blank. Reductions of it appeared in Élisée Reclus "La Terre," Vol. I, Les continents. "Carte géologique du Monde, d'après Jules Marcou." Plate II, p. 30. Paris, 1868. Of this there are four editions. By an oversight of the translator, Mr. Henry Woodward, the author's name was omitted in the English editions entitled "The Earth," by Élisée Reclus.

Prof. Oscar Fraas reproduced a reduction of the first edition of this map in his "Vor der Sündfluth," Stuttgart, 1865, with the author's name omitted; in the subsequent editions of his work he repaired his forgetfulness. In 1872 a reduction of the first edition, in one sheet, appeared in Vienna, in the "Physikalische Karten," published by Artaria & Co. under the title "Geologische Uebersichtskarten der Erde nach Marcou."

8.

1865—Marcou (Jules). Geological map of the world (reduction of).

Accompanying "Vor der Sündfluth," by Oscar Fraas. Stuttgart, 1865.

See **Marcou** (Jules), 1860—No. 7.

9.

1867—Simonin (Louis). Carte des terrains houillers du globe et de l'exportation du charbon anglais d'après Taylor, Marcou et les documents officiels.

Accompanying "La vie souterraine, ou les mines et les mineurs." Carte I, p. 32. Paris, 1867.

It is a reduction of R. C. Taylor's chart, with additions from the first edition of Marcou's Geological map of the world.

10.

1868—Marcou (Jules). Carte géologique du monde d'après Jules Marcou.

Accompanying "La Terre," by Élisée Reclus, Vol. I, Plate II, p. 30. Paris, 1868.

See **Marcou** (Jules), 1860—No. 7.

11.

1870—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus, 2d edition, Plate II. Paris, 1870.

See **Marcou** (Jules), 1860—No. 7.

12.

1871—Marcou (Jules). Geological map of the world.

Accompanying "The Earth," by Élisée Reclus, Plate II. London, 1871.

The name of Jules Marcou has been dropped, not by the translator, Mr. Henry Woodward, but by the publisher.

See **Marcou** (Jules), 1860—No. 7.

13.

1872—Marcou (Jules). Geologische Uebersichtskarten der Erde, nach Marcou.

Accompanying "Physikalische Karten," published by Artaria & Co. Vienna, 1872.

See **Marcou** (Jules), 1860—No. 7.

14.

1874—Marcou (Jules). Geological map of the world.

Accompanying "The Earth," by Élisée Reclus, 2d edition, Plate II. London, 1874.

See **Marcou** (Jules), 1860—No. 7.

15.

1874—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus, Plate II. German edition. (Berlin), 1874.

See **Marcou** (Jules), 1860—No. 7.

16.

1875—Marcou (Jules). Geological map of the world. Carte géologique de la terre. Scale 1: 23,000,000. Zurich, 1875.

Second edition, in eight sheets. North and South America are almost all colored, and many corrections and additions have been made. A reduction appeared in the fourth edition of Élisée Reclus's "La Terre," and also in translations and subsequent editions of the same work.

17.

1875—Marcou (Jules). Carte géologique de la terre, réduction et assemblage des huit feuilles.

Accompanying "Explication d'une seconde édition de la carte géologique de la terre." 4°. Zurich, 1875.

18.

1876—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus. Italian edition, from which the name of E. Reclus has been expunged. ———, 1876.

See **Marcou** (Jules), 1875—No. 16.

19.

1876—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus, 3ieme édition, Plate II. Paris, 1876.

See **Marcou** (Jules), 1860.—No. 7.

20.

1876—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus. Carte géologique II. Magyar edition. Buda Pesth (Hungary), 1876.

See **Marcou** (Jules), 1875—No. 16.

21.

1877—Marcou (Jules). Carte géologique du monde d'après Jules Marcou.

Accompanying "La Terre," by Élisée Reclus, 4ieme edition, Plate II, p. 26. Paris, 1877.

See **Marcou** (Jules), 1875—No. 16.

22.

1877—Marcou (Jules). Geological map of the world.

Accompanying "The Earth," by Élisée Reclus, 3d edition, Plate II. London, 1877.

See **Marcou** (Jules), 1875—No. 16.

23.

1878—Marcou (Jules). Carte géologique du monde.

Accompanying "La Terre," by Élisée Reclus. Carte II. Russian edition. St. Petersburg, 1878?

See **Marcou** (Jules), 1875—No. 16.

II.—NORTH AMERICA IN GENERAL, COMPRISING THE UNITED STATES, OR A LARGE PORTION OF THEM, AND THE BRITISH POSSESSIONS OF NORTH AMERICA.

24.

1752—Guettard (Jean Étienne). Carte minéralogique où l'on voit la nature des terrains du Canada et de la Louisiane.

Accompanying "Mémoire dans lequel on compare la Canada à la Suisse par rapport à ses mineraux." Histoire de l'Académie Royale des sciences, 4°, p. 189, Plate VII. Paris, 1752.

A map extending from Florida to the 60th parallel of latitude north.

This very curious first "Geological Map of a part of North America," shows the geographical distribution of three large belts of rocks, which Guettard called "Bandes sabloneuse, marneuse, et schisteuse ou métallifère." The marly or clay belt is marked by a shaded zone, extending from the shores of Texas, on the Gulf of Mexico, toward the northeast as far Cape Breton Island, called Isle Royale; then it turns northwest toward Quebec. West of this band lay the schistose or metalliferous belt, and east of it the sandy belt under the sea-level.

Thirty-nine different signs and annotations indicate places where rocks and minerals exist between the Atlantic and the Rocky Mountains. On a smaller map, placed at the right-hand lower corner, on a larger scale, comprising the shores of the St. Lawrence River, Guettard points out eight localities containing fossils, which he figures on Plates 3 and 4. One is evidently an Orthis, and another a Leptæna, related to Leptæna sericea, both found on the shores or near Lake Champlain. Besides, Guettard gives figures of Crinoidœa and a tooth of the Mastodon giganteum, found on the banks of the Ohio River, in 1739, by Longueil, an officer of the French army, who collected there (Big bone Lick) bones, teeth, and tusks which still exist carefully kept among the collections of Comparative Anatomy at the "Jardin des Plantes," in Paris. The map was constructed by Philippe Buache for M. Guettard.

25.

1809—Maclure (William). A map of the United States, colored geologically.

Accompanying "Observations on the Geology of the United States, explanatory of a Geological Map." Trans. Amer. Phil. Soc., Vol. VI, p. 411. Philadelphia, 1809.

This was published during the author's absence in Europe, and he was much dissatisfied with it.

26.

1811—Maclure (William). Carte des États-Unis de l'Amérique-Nord, pour servir aux observations géologiques.

Accompanying "Observations sur la Géologie des États-Unis." (Journ. de Phys., de Chim., d'Hist. Nat. et des Arts, par J. C. Delamétherie, Vol. LXXII.) Paris, 1811.

For a fac-simile of this map see 1858—No. 54.

27.

1817—Maclure (William). Map of the United States of America, designed to illustrate the Geological Memoir of Wm. Maclure, esq.

Accompanying "Observations on the Geology of the United States of America." Trans. Amer. Phil. Soc., New Series, Vol. I. 4°. Philadelphia, 1817.

This geological map and the explanatory memoir are better known than the first map of 1809 or the French edition of 1811, and are generally considered as the starting point for the geology of North America. Also issued separately in 8°.

28.

1822—Cleaveland (Parker). (Geological Map) The United States.

Accompanying "An elementary treatise on Mineralogy and Geology, designed as a companion for travelers in the United States of America." Second edition in two volumes, p. 784, Vol. II, Plate VI. Boston, 1822.

This old geological map of the United States is merely a copy of the third edition of 1817, of Maclure's Geological Map, with very few additions or variations.

29.

1822—Long (S. H.) and **James** (Edwin). Map of the country drained by the Mississippi, western section.

Accompanying "Account of an expedition from Pittsburgh to the Rocky Mountains, performed in the years 1819 and 1820, under the command of Major S. H. Long," compiled by Edwin James, geologist to the expedition, 2 vol. and 4° atlas. Philadelphia, 1823.

In black, with dotted lines and geologic inscriptions indicating limits of the formations as understood then by Edwin James.

Although very rough, this first sketch of the geology of the country west of the Mississippi River, by Dr. Edwin James, is very creditable, and entitles him to be called the first pioneer of the geology of the country between the Mississippi River and the eastern foot of the Rocky Mountains. The volumes appeared in 1823 the atlas in 1822.

30.

1842—Owen (D. D.). Geological chart of the Ohio Valley.

Accompanying "On the geology of the Western States of North America." As a postponed paper in Journ. Geol. Soc., London, Vol. II, p. 433. London, 1846.

This map was published in order to establish satisfactorily his just claims of original discoverer of many important points in the geology of the Western States, two maps having appeared in 1843, by B. Lawrence and J. Hall, covering almost the same ground, without reference to the survey of David Dale Owen, from which they were compiled almost entirely.

31.

1843—Lawrence (Byrem). A geological map of the Western States.

[No place of publication]. 1843. Lithographed in Boston.

This very rare map is merely a copy of David Dale Owens' geological map of the Ohio Valley.

32.

1843—Hall (James). Geological map of the Middle and Western States.

Accompanying "Geology of New York," Part IV, comprising the survey of the fourth geological districts. 4to. Albany, 1843; also issued separately.

33.

1843—Moxon (Charles). Sketch of the geology of the United States.

Accompanying "On the geology of the United States." In the Geologist for the year 1843, edited by C. Moxon. Frontispiece. London, 1843.

A very rough reproduction and reprint of Maclure's geological map.

34.

1845—Lyell (Sir Charles). Geological map of the United States, Canada, &c.

Accompanying "Travels in North America in the years 1841-42." London and New York, 1845.

This map appeared May 14th, 1845. It is important, giving for the first time a general view of the geology of North America.

35.

1846—Lyell (Sir Charles). Geognostische Karte der Vereinigten Staaten, Canada, &c.

Accompanying "Reisen in Nord-Amerika von Charles Lyell. Deutsch, von Dr. Emil Th. Wolff." Halle, 1846.

36.

1848—Wislizenus (A.). Geological sketch of a tour from Independence to Santa Fé, Chihuahua, Monterey, and Matamoros.

Accompanying "Memoir of a tour to Northern Mexico, connected with Colonel Doniphan's expedition in 1846 and 1847." Washington, 1848.

Black, with geological indications only.

37.

1851—Owen (D. D.), **Norwood** (J. G.), and **Whittlesey** (Charles). Geological map of Wisconsin, Iowa, and Minnesota, exhibiting also the extension of the Iowa coal field into Missouri, and its relation to the Illinois coal field.

Accompanying "Report of a geological survey of Wisconsin, Iowa, and Minnesota and incidentally of a portion of Nebraska Territory," by D. D. Owen. Vol. of illustrations. 4°. Philadelphia, 1852.

A very important map for the upper Mississippi region. On the same large sheet, at the upper right-hand corner, there is also a "Geological map of the north shore of Lake Superior".

38.

1851—Owen (D. D.), **Norwood** (J. G.), and **Whittlesey** (Charles). Geological map of the north shore of Lake Superior.

Accompanying "Report of a geological survey of Wisconsin, Iowa, and Minnesota and incidentally of a portion of Nebraska Territory," by D. D. Owen. Vol. of illustrations. 4°. Philadelphia, 1852.

See the preceding map—No. 37.

39.

1852—Buch (Leopold von). Geognostische Karte von Nord-America.

Accompanying "Ueber die Juraformation auf der Erdfläche" in Monatsbericht der königlichen Akademie der Wissenschaften zu Berlin. Berlin, 1853.

It is the last memoir by the celebrated Prussian geologist. The map is on a very small scale, and was also issued separately.

40.

1853—Marcou (Jules). Geological map of the United States and the British provinces of North-America.

Accompanying "A geological map of the United States and the British provinces of North America, with an explanatory text, geological sections, and plates of the fossils which characterize the formation." Boston, July, 1853.

A French translation has appeared under the title "Carte géologique des États-Unis et des provinces Britanniques de l'Amérique du Nord." Accompanying "Voyage dans l'Amérique du Nord en 1853 et 1854, par Guillaume Lambert, Bruxelles, mars 1855. This map is the first which gives the distribution of the strata, according to the nomenclature of Murchison and de Verneuil, into lower and upper Silurian and Devonian; it also extends beyond the Mississippi as far as the Rocky Mountains.

41.

1853—Hitchcock (Edward). A geological map of the United States and Canada.

Accompanying "Outlines of the geology of the globe, and of the United States in particular, with two geological maps, and sketches of characteristic American fossils." Boston, 1854.

Sketch map made up by combining Boué's "Geological map of the world," with Charles Lyell and Jules Marcou's "Geological map of the United States and Canada."

This map first appeared in October, 1853. Another issue was made in 1854.

42.

1854—Hitchcock (Edward). A geological map of the United States and Canada.

Second issue of the above-mentioned map—No. 41.

43.

1855—Logan (W. E.). Carte géologique du Canada. Scale: lieues de 25 au degré dont une = 4445 m.

Accompanying "Esquisse géologique du Canada pour servir à l'intelligence de la carte géologique envoyé à l'Exposition universelle de Paris en 1855" par W. E. Logan et T. Sterry Hunt, in 12°. Paris, 1855.

This map is also published in the "Bull. Soc. géol. France, 2e série, tom. XII, page 1316. More than half of this map is of the United States.

44.

1855—Logan (W. E.). Carte géologique du Canada. Scale, lieues de 25 au degré dont une = 4445 m.

Accompanying "Bull. Soc. géol. France," 2e série, tom. XII, p. 1316. Paris, 1855.

The same as the map mentioned above; a few copies were presented to the Geol. Soc. of France, and inserted in its Bulletin.

45.

1855—Lyell (Sir Charles). Geological map of the United States, Canada, &c. London, 1855.

Second English edition. See **Lyell** (Sir Charles), 1845—No. 34.

46.

1855—Marcou (Jules). Carte géologique des Etats-Unis et des provinces Britaniques de l'Amérique du Nord.

Accompanying "Voyage dans l'Amérique du Nord en 1853 et 1854", par Guillaume Lambert. Bruxelles, 1855.

See **Marcou** (Jules), 1853—No. 40.

47.

1855—Marcou (Jules). Carte du terrain Carbonifère dans une partie de l'Amérique du Nord.

Accompanying "Le terrain Carbonifère dans l'Amérique du Nord". La Bibliothèque universelle de Genève, Juin, 1855. Genève, 1855.

Black etching.

48

1855—Marcou (Jules). Geologische Karte der Vereinigten Staaten und Britischen Provinzen von Nord-Amerika. Scale, 1 : 14,000,000.

Accompanying "Ueber die Geologie der Vereinigten Staaten und der Englischer Provinzen von Nord-Amerika." Petermann's Geographische Mittheilungen. Vol. I. Gotha, 1855.

Published July, 1855. It is the first geological map comprising the whole country from the Atlantic to the Pacific Oceans, the author being the first geologist to cross the continent with a Government expedition—the Pacific Railroad exploration. He was able to give said data by the 35th parellel of latitude from Arkansas to San Francisco.

49.

1855—Marcou (Jules). Carte géologique des États-Unis et des provinces anglaises de l'Amérique du Nord.

Accompanying "Résumé explicatif d'une carte géologique des États-Unis et des provinces anglaises de l'Amérique du Nord." Bull. Soc. géol. France, tome XII, p. 813. Paris, 1855.

The number of the Bulletin for May, 1855, did not appear till the beginning of 1856. On this account the author, to prevent delays and in order to take date for his discoveries in the far West, had a German edition published in Petermann's Geographische Mittheilungen. This map also appeared in the Annales des Mines, tome VII, p. 329. Paris, 1855.

50.

1855—Marcou (Jules). Carte géologique des États-Unis et des provinces anglaises de l'Amérique du Nord.

Accompanying "Esquisse d'une classification des chaines de montagnes d'une partie de l'Amérique du Nord. Annales des Mines, 5^{e} série, tome VII, p. 320, Plate IX. Paris, 1855.

See **Marcou** (Jules), 1855—No. 49.

51.

1855—Rogers (H. D.). Geological map of the United States and British North America.

Accompanying "Physical Atlas of Natural Phenomena," by Keith Johnston. Folio, Plate VIII. Edinburgh, 1856.

Published the 1st of July, 1856.

52.

1857—Hall (James), and **Lesley** (J. P.). Map illustrating the general geological features of the country west of the Mississippi.

Accompanying "Report on the United States and Mexican Boundary Survey," by W. H. Emory. 4°. Vol. I, Part II, p. 1. Washington, 1857.

53.

1858—Mackie (S. J.). Remnants of Primeval Lands, North America.

Accompanying "The remnants of the first life world and the bottom rocks." In "The Geologist," a popular monthly magazine of geology, edited by S. J. Mackie, p. 288. London, 1858.

54.

1858—Maclure (W.) Carte des États-Unis de l'Amérique du Nord, pour servir aux observations géologiques.

Accompanying "Geology of North America," by Jules Marcou. 4°. Zurich, 1858.

This is a copy on a somewhat smaller scale of the Paris edition of 1811.

See **Marcou** (Jules), 1858—No. 55.

55.

1858—Marcou (Jules). Carte géologique des États-Unís et des provinces anglaises de l'Amérique du Nord.

Accompanying "Geology of North America, with two reports on the prairies of Arkansas and Texas, the Rocky Mountains of New Mexico, and the Sierra Nevada of California." 4°. Zurich, 1858.

A reduction of this map, combined with the first edition of the "Geological map of the world," by the same author, is placed at the lower corner on the left-hand side of the sheet of "Geologie und Physikalische Karten," containing "Geologische Uebersichts-Karte der Erde nach Marcou, etc.," published by Artaria & Co. Vienna, 1872.

See **Marcou** (Jules), 1872—No. 66.

56.

1861—Hayden (F. V.). Outline reduction of the maps of Kansas, Nebraska, and Dakota. Scale, 60 miles to the inch.

Accompanying "On the geology and natural history of the Upper Missouri. Trans. Amer. Phil. Soc. 4°. Vol. XII, new series, article I, p. 218. Philadelphia, 1863.

57.

1861—Humphreys (A. A.), and **Abbot** (H. L.). Map of the alluvial region of the Mississippi. Scale 1 : 1,500,000.

Accompanying "Report upon the physics and hydraulics of the Mississippi River," Professional Papers of the Corps of Topographical Engineers, United States Army, No. 4. 4°. Plate II, U. S. Mississippi Delta Survey. Philadelphia, 1861.

Very important and reliable map, not only in regard to the geological distribution of the alluvium, but also in regard to the delta and the mouth of the Mississippi.

58.

1864—Green (W., jr.). Map showing the relation of the anthracite coal region to the great Appalachian coal-field, according to Leslie.

Accompanying "Notes on the anthracite coal region of North America. Trans. North of England Inst. Mining Engrs., Vol. XIII, p. 25. Newcastle-upon-Tyne, 1864.

59.

1864—Logan (Sir W. E.). Geological map of Canada and the adjacent region, including parts of the British provinces, and of the United States.

Accompanying "Geol. Surv. of Canada, report of progress, from its commencement to 1863". Atlas of maps and sections, with an introduction and appendix I. Montreal, 1865.

Only one-sixth of the map is truly Canadian. In the map appears a Quebec group, comprising the Calciferous and Chazy limestone, and placed below the Trenton group and above the Potsdam. In the volume "Geology of Canada," the same Quebec group is placed above the Trenton group, and as a part of the Utica and Hudson River.

60.

1867—Marcou (Jules). Carte des houillières des États-Unis d'après J. Marcou.

Accompanying "La vie souterraine, ou les mines et les mineurs," par Louis Simonin. 4°. Carte X, p. 112. Paris, 1867.

It is a reduction of Marcou's "Carte géologique des États-Unis et des Provinces anglaises de l'Amérique du Nord" of 1858.

61.

1867—Simonin (Louis). Carte des gîtes miniers des Etats de la Californie et Nevada.

Accompanying "La vie souterraine, ou les mines et les mineurs." Carte XII, p. 432. Paris, 1867.

A reduction of a part of Marcou's "Carte géologique des États-Unis et des Provinces anglaises de l'Amérique du Nord" of 1858. It covers Oregon and some parts of Utah and Arizona.

62.

1867—Simonin (Louis). Carte de la région métallifère du Lac Supérieur d'après Rogers et Marcou.

Accompanying "La vie souterraine, ou les mines et les mineurs." Carte XIV, p. 436. Paris, 1867.

63.

1869—Forster (J. W.). Geological sketch of the United States.

Accompanying "Resources of the Mississippi Valley." Page 272. Chicago, 1869. Black etching, covers one octavo page only.

64.

1871—Credner (Herman). Geognostische Karte des Alleghany-Systems. Nach den vorhandenen Arbeiten sowie eignen Unter-suchungen. Maasstab 1:6,000,000.

Accompanying "Die Geognosie und der Mineralreichthum des Alleghany-Systems." Erläuternder Text zur geognostischen Karte. Petermann's Geographische Mittheilungen. 4°. Vol. XVII, Taf. III. Gotha, 1871.

65.

1872—Hitchcock (C. H.) and **Blake** (W. P.). Geological map of the United States, compiled for the 9th Census. Washington, 1872.

The same as the map published in 1874.

See **Hitchcock** (C. H.) and **Blake** (W. P.), 1874—No. 70.

66.

1872—Marcou (Jules). Carte Géologique des États-Unis et des provinces anglaises de l'Amérique du Nord.

Accompanying "Physikalische Karten Geologie," published by Artaria & Co., on sheet containing "Geologische Uebersichtskarte der Erde nach Marcou." Vienna, 1872.

See **Marcou** (Jules), 1858—No. 55.

67.

1873—Hitchcock (C. H.) and **Blake** (W. P.). Geological map of the United States.

Accompanying "Statistics of mines and mining in the States and Territories west of the Rocky Mountains," being the fifth annual report of Rossiter W. Raymond, p. 480. Washington, 1873.

See **Hitchcock** (C. H.) and **Blake** (W. P.), 1874—No. 70.

68.

1873—Macfarlane (James). Map showing the coal fields of the United States.

Accompanying "The coal regions of America." New York, 1873. Black etching.

69.

1874—Hitchcock (C. H.). Map of the coal fields of the United States, compiled from State reports.

Accompanying "Statistical atlas of the United States, based on the results of the Ninth Census, 1870, compiled under authority of Congress," by Francis A. Walker. Plates XI and XII. folio. Washington, 1874.

70.

1874—Hitchcock (C. H.) and **Blake** (W. P.). Geological map of the United States, compiled from sources mentioned in the text.

Accompanying "Statistical atlas of the United States, based on the results of the Ninth Census, 1870, compiled under authority of Congress," by Francis A. Walker. Plates XIII and XIV. folio. Washington, 1874.

This map is wanting in uniformity of classification and clearness of definitions, not only for the rocks, but also for the colors, which do not represent the same formation on the right as on the left of the map; several copies dated 1872, with the following alteration in the title, "compiled for the Ninth Census," were privately distributed. It was distributed also at the Centennial Exhibition of Philadelphia, 1876, with the "Special report of the Smithsonian Institution." So it may be considered as an official "Geological map of the United States." It was also published in 1877 in "Gray's Atlas of the United States and the World." folio. Philadelphia.

See **Hitchcock** (C. H.) and **Blake** (W. P.), 1872—Nos. 65 and 67.

71.

1874—Wrigley (H. E.). Special oil report map A. Scale, 50 miles to the inch.

Accompanying "2nd Geo. Surv. of Pennsylvania." "Special Report on the Petroleum of Pennsylvania," Vol. J. Harrisburg, 1875.

Black etching, showing oil region of Eastern United States and Canada.

72.

1875—Hitchcock and Blake. Die Steinkohlenfelder der Vereinigten Staaten von N. A., nach der Karte von Hitchcock und Blake. Maasstab 1 : 13,500,000.

Accompanying "Statistische Uebersicht der Steinkohlengewinnung in der Nord-Amerikanischen Union." Von Alb. G. Gatschet in New-York. Petermann's Geographische Mittheilungen. 4°. Vol. XXI, 1875, Taf. XVI.

73.

1876—Boyd (E. F.). Geological map of the United States.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLIII, p. 188. Newcastle-upon-Tyne, 1876.

A rough copy of the map, published under authority of Congress, in Francis A. Walker's statistical atlas of the United States.

74.

1876—Boyd (E. F.). Map of the coal fields of the United States.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLIV. Newcastle-upon-Tyne, 1876.

75.

1876—Bradley (F. H.). Geological chart of the United States east of the Rocky Mountains, and of Canada. New Haven, 1875.

A student's map in black etching.

76.

1876—Hitchcock (C. H.) and **Blake** (W. P.). Geological map of the United States.

Accompanying "Special report of the Smithsonian Institution for the Centennial." Washington, 1876.

See **Hitchcock** (C. H.) and **Blake** (W. P.), 1874—No. 70.

77.

1877—Hitchcock (C. H.) and **Blake** (W. P.). Geological map of the United States.

Accompanying "Atlas of the United States and the world," by Gray. Folio. Philadelphia, 1877.

See **Hitchcock** (C. H.) and **Blake** (W. P.), 1874—No. 70.

78.

1878—Ratzel (Friedr.). Geologische Karte der Vereinigten Staaten.

Accompanying "Die Vereinigten Staaten von Nord-Amerika, Vol. I, p. 28. München, 1878.

Perhaps a reduction of 3rd issue of the map by Hitchcock & Blake?

79.

1879—Macfarlane (J.). Geological sketch of the United States.

Accompanying "An American geological railway guide, giving the geological formation at every railway station," p. 216. New York, 1879.

In black etching and numbers. Very small, occupying one octavo sheet.

80.

1879—Vivian (A. P.). Geological map from Colorado to the Pacific. Scale 45 miles to the inch.

Accompanying "Wanderings in the western land." London, 1879.

Not seen.

81.

1881—Hilgard (E. W.). Map illustrating paper on the tertiary of the Gulf of Mexico.

Accompanying "The later tertiary of the Gulf of Mexico." Amer. Journ. Silliman, 3d series, Vol. XXII, Plate III. New Haven, 1881.

82.

1881—Hitchcock (C. H.). Geological map of the United States. Scale, 20 miles to the inch. New York, 1881.

With a pamphlet, a wall map 13 feet long and 8 feet wide; the largest geological map yet published of the United States and Canada.

III.—ARCTIC AMERICA, COMPRISING GREENLAND, ARCTIC ARCHIPELAGO, AND THE NORTHERNMOST PART OF AMERICA.

83.

1851—Richardson (Sir John). Map of the physical geography and geology of the Arctic regions.

Accompanying "Arctic searching expedition; a journal of a boat-voyage through Rupert's land and the Arctic Sea, in search of the discovery ships, under command of Sir John Franklin." 2 vols. London, 1851.

84.

1855—Isbister (A. K.). Geological sketch map of the northernmost parts of America.

Accompanying "On the geology of the Hudson's Bay Territories, and of portions of the Arctic and northwestern regions of America." In the Journ. Geol. Soc. London, Vol. XI, p. 497. London, 1855.

85.

1855—Isbister (A. K.). Geological sketch map of the northernmost parts of America.*

Accompanying "On the occurrence of numerous fragments of fir-wood in the islands of the Arctic Archipelago, with remarks on the rock specimens brought from that region," by Sir Roderick T. Murchison. From the Journ. Geol. Soc. London, Vol. XI, p. 536. London, 1855.

*This map was published in November of the same year, to accompany a separate issue of the above-mentioned memoir.

86.

1857—Haughton (S.). Discoveries in the Arctic Sea up to MDCCCLIV.

Accompanying "Reminiscences of Arctic ice travel in search of Sir John Franklin and his companions," by Capt. F. L. McClintock. With geological notes and illustrations by Rev. Samuel Haughton. Journal of the Royal Dublin Society, Feb., 1857. Dublin, 1857.

87.

1859—Haughton (S.). Geological map of the Arctic Archipelago.

Accompanying "A narrative of the Discovery of the fate of Sir John Franklin and his companions," by Capt. F. L. McClintock, p. 372. London, 1859.

In black etching, and covering more ground than the issue of 1857.

88.

1860—Lieber (O. M.). Sketch showing the geology of the coast of Labrador. Scale, 1 : 5,000,000.

Accompanying "Notes on the geology of the coast of Labrador," by Oscar M. Lieber, August, 1860 (sketch No. 38). Report of the Superintendent of the U. S. Coast Survey, showing the progress of the survey during the year 1860. 4°. Washington, 1861.

Black etching.

89.

1861—Lieber (O. M.). Die Küste von Labrador. Nach den bisherigen Englischen Aufnahmen, den Untersuchungen der Missionäre und handschriftlichen Mittheilungen von Oscar M. Lieber. Maasstab, 1 : 4,000,000.

Accompanying "Die Amerikanische astronomische Expedition nach Labrador in July, 1860." Petermann's Geographische Mittheilungen, Vol. VII, 1861, Taf. IX. 4°. Gotha, 1861.

90.

1874—Rhode (J. G.) and **Steenstrup** (K. J. V.). Geognostische Uebersichts-Karte der Küsten des Waigattes in Nord-Grönland. Maasstab, 1 : 710,000.

Accompanying "Bemerkungen zu der Geognostischen Uebersichts-Karte der Küsten des Waigattes in Nord-Grönland," von K. J. V. Steenstrup. (Geographie und Esforschung der Polarregionen, Nr. 89.) Petermann's Geographische Mittheilungen, Vol. XX, 1874, Taf. VII. Gotha, 1874.

Appeared also in Videnskabelige Meddelelser fra den naturhistoriske Forening i Kjobenhavn, 1874 and 1875, p. 74; and in the Mineralogical Magazine, Vol. I, p. 143. London and Truro, 1877.

91.

1874—Rohde (J. G.) and **Steenstrup** (K. J. V.). (Geognostische Uebersichts-Karte der Küsten des Waigattes in Nord-Grönland.)

Accompanying "Videnskabelige Meddelelser fra den naturhistoriske Forening i Kjobenhavn," 1874 and 1875, p. 74. Kjobenhavn, 1874.

See **Rohde** (J. G.) and **Steenstrup** (K. J. V.), 1874—No. 90.

Not seen.

92.

1876—Steenstrup (K. J. V.). Geognostisk Kaart over en Del af Julianehaabs Distrikt i Syd-Groenland.

Accompanying "A. Expeditionen til Julianehaabs Distrikt i 1876." Meddelelser om Groenland, Andet Hefte, p. 112. Kjobenhavn, 1881.

93.

1877—Rohde (J. G.) and **Steenstrup** (K. J. V.). Geognostische Uebersichts-Karte der Küsten des Waigattes in Nord-Grönland.

Accompanying "The Mineralogical Magazine," Vol. I, p. 143. "On the non-meteoric origin of the masses of metallic iron in the basalt of Disko, Greenland." Selected and translated from the original Danish paper by K. J. V. Steenstrup, by J. G. Rohde, traveling companion to the author on his expedition in 1872. London and Truro, 1877.

In the copy seen there is no map.

94.

1878—Feilden (H. W.) and **De Rance** (C. E.). Sketch map showing the geology of Grinnell Land and the neighboring regions.

Accompanying "Geology of the coasts of the Arctic lands visited by the late British expedition, under Captain Sir George Nares." Journ. Geol. Soc. London, Vol. XXXIV, p. 556. London, 1878.

Black etching.

95.

1879—Kornerup (A.). Geologisk Kaartskizze over Kystlandet fra Godthaab til Tiningnertok.

Accompanying "Geologiske Iagttagelser fra Vestkysten af Groenland." Meddelelser om Groenland, Foerst Hefte, Kaart B. Kjobenhavn, 1879.

96.

1879—Kornerup (A.). Geologisk Kaartskisse over Gnejsens Strygningslinjer fra Kangatsiak til Holstensborg.

Accompanying "B. Expeditionen til Holstensborgs og Egedesmindes Distrikter i 1879." Meddelelser om Groenland, Andet Hefte, p. 149. Kjobenhavn, 1881.

IV.—NEWFOUNDLAND.

97.

1824—Cormack (W. E.). Map of Newfoundland.

Accompanying "Account of a journey across the island of Newfoundland." Edinburgh Philosophical Journal, Vol. X, Plate VI, page, 156. Edinburgh, 1824.

Black, with geological indications.

98.

1842—Bonnycastle (Sir Richard H.). Newfoundland, in 1842, considered in its geological and statistical relations.

Acompanying "Newfoundland in 1842." 2 vols. 12°. London, 1842.

Black, with geological indications and notes.

Jukes has priority of Bonnycastle, who took advantage of and copied Jukes' official report to the Newfoundland Government.

99.

1842—Jukes (J. B.). Map of the island of Newfoundland.

Accompaning "Excursions in and about Newfoundland during the years 1839 and 1840," by J. B. Jukes. 2 vols. London, 1842.

Black, with geological inscriptions and signs.

See **Jukes** (J. B.), 1843—No. 100.

100.

1843—Jukes (J. B.). Map of the island of Newfoundland (geologically colored).

Accompanying "General report of the geological survey of Newfoundland during the years 1839 and 1840." London, 1843.

About a quarter of the whole island is colored geologically; the rest is left in blank, as unknown. An important work. The same map, but not geologically colored, only with the geological inscriptions and signs, accompanies "Excursions in and about Newfoundland during the years 1839 and 1840," by J. B. Jukes. In two volumes. London, 1842.

101.

1866—Murray (Alex.). Plan of Belvie Bay (Newfoundland). Scale, 2 miles to 1 inch.

Accompanying "Report on the geology of Newfoundland for 1865," p. 24. Montreal, 1866.

Black, with geological indications.

102.

1870—Murray (Alex.). Map of an exploration of the Bay East River, Newfoundland. Scale, 4 statute miles to 1 inch.

Accompanying "Report upon the geological survey of Newfoundland for the year 1870." St. John's, Newfoundland, 1870.

Black, with geological indications.

103.

1873—Murray (Alex.). Geological map of Newfoundland. London, 1873.

The first complete geological map of the whole island. No date of publication on the map; but a small explanatory tract or label attached to it says July, 1873.

104.

1873—Murray (Alex.) and **Howley** (J. P.). Map showing the distribution of the coal formation, &c., St. George's Bay, Newfoundland.

Accompanying "Report of progress for the year 1873, Geological survey of Newfoundland." Montreal, 1873.

Black, with dotted lines and geological indications.

105.

1874—Gilpin (E.). Sketch of the Carboniferous district of St. George's Bay, Newfoundland.

Accompanying "Notes on the Coalmeasures and lower Carboniferous strata of Western Newfoundland." Trans. North of England Inst. Mining Engrs., Vol. XXIII, Plate XXXV. Newcastle-upon-Tyne, 1874.

Black etching and geological indications.

106.

1874—Murray (Alex.). Map of Gander River and Lake. Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Newfoundland; report of progress for the year 1874." St. John's, Newfoundland, 1875.

Black, with geological indications.

107.

1874—Murray (Alex.) and **Howley** (J. P.). Map showing the distribution of the Silurian and Carboniferous formation, &c., in St. George's and Port à Port Bays, Newfoundland. Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Newfoundland; report of progress for for the year 1874." St. John's, Newfoundland, 1875.

Black, with dotted lines and geological indications.

108.

(1879)—Murray (Alex.) and **Howley** (J. P.) Geological map of Newfoundland. London (1879).

There is no date of publication on the map. I received a copy from the author in July, 1880.

109.

1881—Murray (Alex.) and **Howley** (J. P.) Peninsula of Avalon, showing distribution of formations. Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Newfoundland; report of progress for the year 1881." St. John's, Newfoundland, 1882.

A large, important geological map of the eastern part of the island.

110.

1881—Howley (J. P.). Section map showing the corrugation effecting the stratification of the Huronian formation near Brigus, Conception Bay. Scale, 4 inches to 1 mile.

Accompanying "Geological survey of Newfoundland; report of progress for the year 1881. St. John's, Newfoundland, 1882.

V.—ACADIA, COMPRISING NOVA SCOTIA (CAPE BRETON ISLAND), PRINCE EDWARD ISLAND, MAGDALEN ISLANDS, AND NEW BRUNSWICK.

111.

1828—Jackson (C. T.) and **Alger** (Francis).. A geological map of part of Nova Scotia. Scale, 10 miles to $\frac{5}{8}$ of an inch.

Accompanying "A description of the mineralogy and geology of a part of Nova Scotia." Amer. Journ. Silliman, Vol. XIV. New Haven, 1828.

Also in the Memoirs of the American Academy of Science, 1832. 4°. Cambridge.

112.

1832—Baddeley (F. F.). Outline of the Magdalen Islands, with geological notes.

Accompanying "On the Magdalen Islands." In Trans. Lit. and Hist. Soc. Quebec. Vol. II. Quebec, 1836.

113.

1832—Jackson (C. T.) and **Alger** (Francis). A geological map of part of Nova Scotia. Scale, 10 miles to $\frac{5}{8}$ of an inch.

Accompanying "A description of the mineralogy and geology of a part of Nova Scotia." Memoirs of the American Academy of Science. 4to. 1832. Cambridge, 1832.

See **Jackson** (C. T.) and **Alger** (Francis), 1828—No. 111.

114.

1836—Gesner (Abraham). A new map of Nova Scotia and Cape Breton, Prince Edward Island, and part of New Brunswick.

Accompanying "Remarks on the geology and mineralogy of Nova Scotia," by A. Gesner. Halifax, 1836.

No author's name on the map.

115.

1841—Jackson (C. T.) and **Alger** (F.). A new pocket map of the peninsula of Nova Scotia, intended as a topographical guide, also to illustrate its geological structure. (Boston), 1841.

No place of publication is given, but Boston is undoubtedly the place and Francis Alger was the editor.

116.

1843—Gesner (Abraham). Geological map of Nova Scotia.

Accompanying "On the geology of Cape Breton," by Richard Brown, and "In the lower carboniferous rocks or gypsiferous formation of Nova Scotia," by J. W. Dawson. Journ. Geol. Soc. London, Vol. I, p. 23. London, 1845.

See **Dawson** (J. W.), 1845—No. 119.

117.

1843—Gesner (Abraham). Geological map of Nova Scotia.

Accompanying "A geological map of Nova Scotia"; also, "On the geology of Cape Breton," by Richard Brown, and "On the lower carbniferous rocks of Nova Scotia," by J. W. Dawson. Proceed. of the Geol. Soc. of London, Vol. VI, pp. 186, 269, and 272." London, 1846.

A part of the map was colored by Messrs. R. Brown and J. W. Dawson, and the geological map by C. T. Jackson and Alger of 1828 was used.

118.

1845—Dawson (J. W.). Geological map of part of Nova Scotia.

Accompanying "On the newer coal formation of the eastern part of Nova Scotia." Journ. Geol. Soc. London, Vol. I, p. 322. London, 1845.

See **Dawson** (J. W.), 1845—No. 119.

119.

1845—Dawson (J. W.). Geological map of part of Nova Scotia.

Accompanying "On the newer coal formation of the eastern part of Nova Scotia." In Proceed. of the Geol. Soc. of London, Vol. IV, p. 504. London, 1846.

This map and A. Gesner's geological map of Nova Scotia were issued twice, first in Vol. IV of the Proceedings and then in Vol. I of the Journal of the Geological Society. No explanation is given of the double issue of maps and of the accompanying memoirs.

120.

1847—Dawson (J. W.). Map and sections of new red sandstone of Nova Scotia.

Accompanying "On the new red sandstone of Nova Scotia." Journ. Geol. Soc. London, Vol. IV, p. 50. London, 1848.

Black etching.

121.

1848—Taylor (R. C.). Map of the New Brunswick, Nova Scotia, Cape Breton, and Newfoundland coal fields.

Accompanying "Statistics of coal," p. 208. Philadelphia, 1848.

122.

1850—Robb (J.). Geological map of New Brunswick.

Accompanying "Report on the agricultural capabilities of the province of New Brunswick," by James F. W. Johnston. Fredericton, 1850.

The main sources of information for the construction of this map are two manuscript maps by Abraham Gesner, formerly provincial geologist.

123.

1851—Jackson (C. T.). A geological map of the Albert Coal Mines and the surrounding strata.

Accompanying "Report on the Albert Coal Mine" (New Brunswick). (Boston), 1851.

Black, with geological indications.

124.

1855—Dawson (J. W.). Geological map of Nova Scotia, Prince Edward Island, and part of New Brunswick.

Accompanying "Acadian geology: an account of the geological structure and mineral resources of Nova Scotia and portions of the neighbouring provinces of British America." Edinburgh, 1855.

The first edition of an important geological map and work.

125.

1860—Dawson (J. W.). No title.

Accompanying "On the Silurian and Devonian rocks of Nova Scotia." The Canadian Naturalist and Geologist, Vol. V, p. 133. Montreal, 1860.

Black etching.

126.

1863—Matthew (G. F.). Map of the vicinity of St. John, New Brunswick.

Accompanying "Observations on the geology of St. John County, New Brunswick." The Canadian Naturalist and Geologist, p. 8, Montreal, 1863.

Black etching.

127.

1864—Bailey (L. W.). Geological map of the Tobique and Nepisiquit Rivers, New Brunswick.

Accompanying "Notes on the geology and botany of New Brunswick." The Canadian Naturalist and Geologist, new series, Vol. I, p. 81. Montreal, 1864.

Black etching.

128.

1864—Bailey (L. W.) and **Matthew** (G. F.). Geological map of the counties of St. John, Kings, Queens, and Albert, New Brunswick, showing the position and extent of each formation, from the Carboniferous basin to the coast.

Accompanying "Observations on the geology of Southern New Brunswick, made principally during the summer of 1864," by L. W. Bailey, George F. Matthew, and C. F. Hart. Fredericton, 1865.

An important map and memoir.

129.

1865—Bailey (L. W.) and **Matthew** (G. F.). Geological map of the counties of St. John, Kings, Queens, aud Albert, New Brunswick, showing the position and extent of each formation, from the Carboniferous basin to the coast.

Accompanying "On the Azoic and Paleozoic rocks of Southern New Brunswick," by by G. F. Matthew. Journ. Geol. Soc. London, Vol. XXI, p. 422. London, 1865.

Black etching.

130.

1865—Bailey (L. W.). Geological map of Grand Manan.

Accompanying "On the physiography and geology of the island of Grand Manan" (New Brunswick). The Canadian Naturalist and Geologist, Vol. VI, p. 43. Montreal, 1865.

Black etching.

131.

1865—Hedley (Edward). Geological map of the province of Nova Scotia, including the island of Cape Breton.

Accompanying "On the iron mines and iron manufacture of Nova Scotia." Trans. North of England Inst. Mining Engrs., Vol. XIV, Plate I, p. 15. Newcastle-upon-Tyne, 1865.

132.

1866—Honeyman (D.). (Geological) map of Antigonish County.

Accompanying "Geology of Antigonish County, Nova Scotia." Proceed. and Trans. of the Nova Scotian Institute of Natural Sciences of Halifax, Nova Scotia. Vol. I, p. 106. Halifax, 1867.

133.

1868—Dawson (J. W.). Sketch map of Pictou coal district.

Accompanying "Acadian geology," 2d edition, p. 320. London, 1868.

Black etching and inscriptions.

134.

1868—Dawson (J. W.). Map of Cape Breton coal fields.

Accompanying "Acadian geology," 2d edition, p. 413. London, 1868.

Black etching and inscriptions.

These two maps of Dawson are copied in black etching, on a reduced scale wood cuts, in "Coal regions of America," by James Macfarlane, New York, 1873.

135.

1868—Dawson (J. W.). Geological map of Nova Scotia, New Brunswick, and Prince Edward's Island. Scale, 25 miles to the inch.

Accompanying "Acadian geology," 2d edition and 3d edition. London, 1868 and 1878.

136.

1869—Robb (Charles). Sketch map of the counties of York, Carleton, and part of Victoria, province of New Brunswick. Scale, 8 miles to 1 inch.

Accompanying "Geological survey of Canada. Report of progress from 1866 to 1869," p. 173. Montreal, 1870.

Black, with geological indications.

137.

1870—Hind (H. Y.). Sketch maps from the Atlantic at Halifax to the St. Lawrence.

Accompanying "On two Gneissoid series in Nova Scotia and New Brunswick, supposed to be the equivalent of the Huronian and Laurentian." Journ. Geol. Soc. London, Vol. XXVI, p. 478. London, 1870.

Three sketches in black etchings.

138.

1870—Logan (Sir W. E.), and **Hartley** (E.). Geological map of the Pictou coal field, province of Nova Scotia. Scale, 1 inch to a mile.

Accompanying "Geological survey of Canada, report of progress from 1866 to 1869," p. 3. Montreal, 1870.

139.

1870—Rutherford (John). Map of Nova Scotia, showing the Carboniferous formation and position of the coal fields.

Accompanying "The coal fields of Nova Scotia." Trans. North of England Inst. Mining Engrs., Vol. XIX, Plate XXV, p. 114. Newcastle-upon-Tyne, 1870.

Black etching.

140.

1870—Rutherford (John). Map of portion of the Pictou coal field.

Accompanying "The coal fields of Nova Scotia." Trans. North of England Inst. Mining Engrs., Vol. XIX, Plate XXVII, p. 122. Newcastle-upon-Tyne, 1870.

Black, with geological indications.

141.

1871—Brown (Richard). Geological map of Cape Breton.

Accompanying "The coal fields and coal trade of the Island of Cape Breton." Frontispiece. London, 1871.

142.

1871—Brown (Richard). Map of the Sydney coal field.

Accompanying "The coal fields and coal trade of the Island of Cape Breton," p. 166. London, 1871.

143.

1871—Dawson (J. W.). Geological map of Prince Edward Island.

Accompanying "Report on the geological structure and mineral resources of Prince Edward Island," by J. W. Dawson, assisted by B. J. Harrington. Montreal, 1871.

144.

1873—Dawson (J. W.). Sketch map of Pictou coal district.

Accompanying "Coal regions of America," by James Macfarlane. New York, 1873.

Black etching. A reduction of Dawson's map of 1868.

See **Dawson** (J. W.), 1868—No. 133.

145.

1873—Dawson (J. W.). Map of Cape Breton coal field.

Accompanying "Coal regions of America," by James Macfarlane. New York, 1873.

Black etching. A reduction of Dawson's map of 1868.

See **Dawson** (J. W.), 1868—No. 134.

146.

1873—Gilpin (E.). Pictou coal field. Scale, two-thirds of an inch equal one mile.

Accompanying "The Pictou coal field." Trans. North of England Inst. Mining Engrs., Vol. XXII, Plate XXXIII, p. 139. Newcastle-upon-Tyne, 1873.

Black etching and geological indications.

147.

1875—Gilpin (E.). Sketch map Sydney coal field from admiralty chart.

Accompanying "The submarine coal of Cape Breton, Nova Scotia." Trans. North of England Inst. Mining Engrs., Vol. XXIV, Plate XXXIV. Newcastle-upon-Tyne, 1875.

Black etching.

148.

1875—Robb (C.) and **Fletcher** (H.). Geological map of Cape Dauphin district, Cape Breton, Nova Scotia. Scale, four inches to a mile.

Accompanying "Report on explorations and surveys in Cape Breton, Nova Scotia." Geological Surv. of Canada; report of progress for 1874–'75, p. 251. Montreal, 1875.

149.

1875—Robb (C.) and **Fletcher** (H.). Geological map of the Sydney coal field, Cape Breton, Nova Scotia. Scale, one inch to a mile.

Accompanying "Report of explorations and surveys in Cape Breton, Nova Scotia," by H. Fletcher. Geol. Surv. Canada; report of progress for 1875–'76, p. 418. Montreal, 1877.

150.

1875—Routledge (W.). Coal area map or plan of the Sydney coal field, Cape Breton County, Nova Scotia.

Accompanying "Notes on the Sydney coal field in the Island of Cape Breton, British North America." Trans. North of England Inst. Mining Engrs., Vol. XXIV, Plate XXXVI. Newcastle-upon-Tyne, 1875.

151.

1876—Bailey (L. W.) and **Ells** (R. W.). Geological map of the lower carboniferous rocks of Albert and Westmoreland Counties, New Brunswick, showing the distribution of the Albert shales. Scale, one inch to a mile.

Accompanying "Report on the lower carboniferous belt of Albert and Westmoreland Counties, N. B., including the 'Albert shales.'" Geol. Surv. Canada; report of progress for 1876–'77, p. 351. Montreal, 1878.

152.

1876—Ells (R. W.). Map shewing the distribution of iron ores of Carleton County, New Brunswick.

Accompanying "Report on the iron ore deposits of Carleton County, New Brunswick." Geol. Surv. Canada; report of progress for 1874-'75, p. 97. Montreal, 1876.

Black, with geological indications.

153.

1876—Fletcher (H.). Geological map of part of Cape Breton, Nova Scotia, from North Sydney and Sydney River to Great Bras d'Or and St. Anne Harbor. Scale, one inch to a mile.

Accompanying "Report on the geology of part of the counties of Victoria, Cape Breton, and Richmond, Nova Scotia." Geol. Surv. Canada; report of progress for 1876-'77, p. 456. Montreal, 1878.

154.

1876—Robb (C.) and **Fletcher** (H.). Geological map of the Sydney coal field, Cape Breton, Nova Scotia. Scale, one inch to a mile.

Accompanying "Report on exploration and surveys in Cape Breton, Nova Scotia." Geol. Surv. Canada; report of progress for 1874-'75, p. 266. Montreal, 1875.

155.

1877—Gilpin (E.). Geological map of Nova Scotia, shewing relative positions of the iron ores, limestones and coal fields, based on the geological map prefixed to second edition of Dr. Dawson's Acadian Geology.

Accompanying "The iron ores of Nova Scotia." Trans. North of England Inst. Mining Engrs., Vol. XXVI, Plate IX. Newcastle-upon-Tyne, 1877.

156.

1877—Gilpin (E.). Geological map of part of Pictou County, Nova Scotia, from surveys of Sir William Logan and the writer.

Accompanying "The iron ores of Nova Scotia." Trans. north of England Inst. Mining Engrs. Vol. XXVI, Plate VIII. Newcastle-upon-Tyne, 1877.

157.

1878—Dawson (J. W.). Geological map of Nova Scotia, New Brunswick, and Prince Edward's Island. Scale, 25 miles to the inch.

Accompanying "Acadian geology," 3d edition. London, 1878.

The map is precisely the same as that in the 2d edition, published in 1868.

See **Dawson** (J. W.), 1868—No. 135.

158.

1879—Fletcher (H.). Geological map of part of Cape Breton, Nova Scotia, to illustrate Report for 1877-8. Scale, one inch to a mile.

Accompanying "Reports of explorations and surveys in Cape Breton, Nova Scotia." Geol. Surv. Canada; report of progress for 1877-'78, atlas. Montreal, 1879.

159.

1880—Bailey (L. W.), **Matthew** (G. F.), and **Ells** (R. W.). Province of New Brunswick. Scale, 4 miles to one inch, or 1:253,440.

Accompanying "Report on the geology of southern New Brunswick, embracing the counties of Charlotte, Sunbury, Queens, King, St. John, and Albert." Geol. Surv. Canada; report of progress for 1878–'79. Montreal, 1880.

The southern part of New Brunswick, No. 1, in three sheets, Nos. 1, S. W., 1, S. E., and 1, N. E.

This map is remarkably well executed.

160.

1881—Gilpin (Edwin). Sketch map, approximate distribution of the carboniferous series of Nova Scotia and New Brunswick.

Accompanying "The gypsum of Nova Scotia." Trans. North of England Inst., Mining Engrs., Vol. XXX, Plate XII, p. 68. Newcastle-upon-Tyne, 1881.

VI.—CANADA PROPER, COMPRISING THE PROVINCE OF QUEBEC (ANTICOSTI ISLAND) OR LOWER CANADA OR EAST CANADA, AND THE PROVINCE OF ONTARIO OR UPPER CANADA OR WEST CANADA.

161.

1829—Baddeley (F. F.). Sketch of the river Saguenay and Lake St. John, to which are added a few geognostical notes.

Accompanying "Geognosy of a part of the Saguenay country." In Trans. Literary and Historical Soc., Quebec, Vol. I. Quebec, 1829.

Black, with geological indications.

162.

1852—Logan (W. E.). Geological map of a part of Canada.

Accompanying "On the foot-prints occurring in the Potsdam sandstone of Canada." Journ. Geol. Soc., London, Vol. VIII, p. 199. London, 1852.

This map is of a part of Canada East.

163.

1853—Bigsby (J. J.). Geological map of the vicinity of Quebec.

Accompanying "On the geology of Quebec and its environs." Journ. Geol. Soc., London, Vol. IX, p. 82. London, 1853.

Black etching.

164.

1856—Logan (W. E.). Plan showing the distribution of crystalline limestones of the Laurentian series, between Grenville and Rawdon. Scale, 3 miles to an inch.

Accompanying "Geol. Surv. Canada; reports of progress for the years 1853-56", p. 38. Toronto, 1857.

165.

1856—Richardson (James). Plan of the Island of Anticosti. Scale, 9 miles to an inch.

Accompanying "Geol. Surv. Canada; report of progress for the years 1853-56", p. 234. Toronto, 1857.

Black, with dotted lines, letters, and indications.

166.

1857—Murray (Alex.). Plans of Bonne Chère, Madawaska, and Shawashkong Rivers, and sources of the Ottonabee. Scale, 80 chains to an inch.

Accompanying "Geological Reports of Canada for 1853, '54, '55, '56." Grand folio atlas. Toronto, 1857.

In four sheets. Black, with geological indications.

167.

1857—Murray (A.) and **Logan** (W. E.). Plans shewing explorations on the north shore of Lake Huron and thence eastward to the Ottawa. Scale, 80 chains to an inch.

Accompanying "Geographical Reports of Canada for 1853, '54, '55, '56." Grand folio atlas. Toronto, 1857.

In eleven sheets. Black, with geological indications.

168.

1857—Murray (A.) and **Logan** (W. E.). Plans shewing explorations between the east shore of Lake Huron and the Ottawa River, Maganatawan River, and Muskoka and Petewahweh Rivers. Scale, 80 chains to an inch.

Accompanying "Geological Reports of Canada for 1853, '54, '55, '56." Grand folio atlas. Toronto, 1857.

In seven sheets. Black, with geological indications.

169.

1857—Richardson (James). Plan showing the distribution of the Devonian and Silurian formations in a part of Gaspé. Scale, 6 miles to an inch.

Accompanying "Geol. Surv. Canada; report of progress for the year 1857", p. 270. Toronto, 1858.

Black, with dotted lines and geological indications.

170.

1857—Richardson (J.) and **Barlow** (S.). Topographical plan of Magdalen River.

Accompanying "Geol. Surv. Canada; report of progress for the year 1857", p. 92. Toronto, 1858.

Black, with geological indications.

171.

1857—Richardson (J.). Plan showing the distribution of the Laurentian and Lower Silurian rocks in the vicinity of Lake St. John.

Accompanying "Geol. Surv. Canada; report of progress for the year 1857", p. 92. Toronto, 1858.

Black, with geological indications.

172.

1858—Logan (Sir W. E.). Plan showing the distribution of crystalline limestone of the Laurentian series in the counties of Argenteuil and Ottawa.

Accompanying "Geol. Surv. of Canada; report of progress for the year 1858", p. 66. Montreal, 1859.

Black, with geological indications.

173.

1858—Logan (Sir W. E.). Plan showing the distribution of the Huronian rocks, between rivers St. Mary and Missisague.

Accompanying "Geol. Surv. Canada; report of progress for the year 1858", p. 104. Montreal, 1859.

Black, with geological indications.

174.

1858—Richardson (J.). Plan showing the distribution of the Devonian and Silurian formations in a part of Gaspé.

Accompanying "Geol. Surv. of Canada; report of progress for the year 1858", p. 170. Montreal, 1859.

Black, with geological indications.

175.

1860—Gibb (G. D.). Murray's cavern and subterranean river—Fourth chute of the Bonne Chère River, Ottawa.

Accompanying "On Canadian Caverns;" The Geologist, edited by J. S. Mackie, Vol. III, pl. XI. London, 1860.

Colored, and with geological indications.

176.

1860—Gibb (G. D.). Basaltic dykes of Mecattina.

Accompanying "On Canadian Caverns;" The Geologist, edited by J. S. Mackie, Vol. III, pl. VIII. London, 1860.

Colored, and with geological indications.

177.

1860—Gibb (G. D.). The basaltic caverns of Henley Island.

Accompanying "On Canadian Caverns;" The Geologist, edited by J. S. Mackie, Vol. III, pl. VII. London, 1860.

178.

1860—Gibb (G. D.). Caverns and arched rocks at Percé Gaspé.

Accompanying "On Canadian Caverns;" The Geologist, edited by J. S. Mackie, Vol. III, pl. VI. London, 1860.

Colored, and with geological indications.

179.

1862—Logan (Sir W. E.). Map showing the distribution of Laurentian rocks in parts of the counties of Ottawa, Terrebonne, Argenteuil, and Two Mountains. Scale, 7 miles to 1 inch.

Accompanying "Geol. Surv. Canada; report of progress from its commencement to 1863." Atlas of maps and sections, with an introduction and appendix. Geological maps II. Montreal, 1865.

180.

1862—Logan (Sir W. E.). Plan showing the distribution of limestone conglomerates in the Quebec group, of Point Lévis.

Accompanying "Geol. Surv. Canada; report of progress from its commencement to 1863." Atlas of maps and sections, with an introduction and appendix. Geological maps V. Montreal, 1865.

Black etching.

See **Logan** (Sir W. E.), 1862—No. 181.

181.

1862.—Logan (Sir W. E.). Plan showing the distribution of limestone conglomerates in the Quebec group at Point Lévis.

Accompanying "Letter addressed to Mr. Joachim Barrande, on the rocks of the Quebec group at Point Lévis," in The Canadian Naturalist and Geologist, May and June, 1863. Vol. VIII, p. 183. Montreal, June, 1863.

Black etching.

182.

1863—Marcou (Jules). Plan des gisements des lentilles dolomitiques dans les schistes Taconiques de la Pointe Lévis, au Canada, 1861–1863.

Accompanying "Notice sur les gisements des lentilles trilobitifères taconiques de la Pointe Lévis, au Canada." Bull. Soc. géol. France, 2e série, Vol. XXI, p. 236. Paris, 1864.

Black etching.

183.

1865—Logan (Sir W. E.). Map showing the distribution of various superficial deposits between Lake Superior and Gaspé. Scale, 125 miles to the inch.

Accompanying "Geol. Surv. Canada; report of progress from its commencement to 1863." Atlas of maps and sections, with an introduction and appendix. Geological maps VI. Montreal, 1865.

184.

1865—Logan (Sir W. E.). Map showing the distribution of the Huronian rocks between rivers Bachehwahnung and Mississagui. Scale, 1.506,880, or 8 miles to the inch.

Accompanying "Geol. Surv. Canada; report of progress from its commencement to 1863." Atlas of maps and sections, with an introduction and appendix. Geological maps III. Montreal, 1865.

185.

1865—Logan (Sir. W. E.). Map showing the distribution of rocks belonging to the Potsdam, Quebec, and Trenton groups, on the east side of Lake Champlain, in the neighbourhood of the line between Canada East and Vermont. Scale, two miles to an inch.

Accompanying "Geol. Surv. Canada; report of progress from its commencement to 1863." Altas of maps and sections, with an introduction and appendix. Geological maps IV. Montreal, 1865.

186.

1868—Richardson (James). Map showing the distribution of the Lower Silurian rocks between the Chaudière and Trois Pistoles Rivers, south side of the river St. Lawrence, province of Quebec. Scale, eight miles to one inch.

Accompanying "Geol. Surv. Canada; report of progress from 1866 to 1869", p. 119. Montreal, 1870.

187.

1868—Vennor (H. G.). Map showing the distribution of the rock formations in parts of the counties of Peterborough, Hastings, Addington, and Frontenac, province of Ontario. Scale, 4 miles to one inch.

Accompanying "Geol. Surv. Canada; report of progress from 1866 to 1869", p. 143. Montreal, 1870.

188.

1874—Vennor (H. G.). Plan of a portion of North Burgess, shewing position of apatite openings. Scale, half a mile to an inch.

Accompanying "Report of explorations and surveys in Fontenac, Leeds, and Lanark Counties," Geol. Surv., Canada; report of progress for 1873-74, p. 128. Montreal, 1874.

Black etching, and geological indications.

189.

1876—Vennor (H. G.). Map of Lanark County and parts of Renfrew and Leeds, province of Ontario. Geologically shaded. Scale, 4 miles to one inch.

Accompanying "Report of explorations in the rear portions of Frontenac and Lanark Counties, etc." Geol. Surv. of Canada; report of progress for 1874–'75, p. 105. Montreal, 1876.

190.

1877—Vennor (H. G.). Map of Ottawa County. Scale, 4 miles to one inch.

Accompanying "Report of Ottawa County." Geol. Surv. of Canada; report of progress for 1876–'77, p. 320. Montreal, 1878.

191.

1880—Dawson (J. W.). Western Canada.

Accompanying "Lecture notes on geology and outline of the geology of Canada." Montreal, 1880.

Black etching.

192.

1880—Dawson (J. W.). Eastern Canada.

Accompanying "Lecture notes on geology and outline of the geology of Canada." Montreal, 1880.

Black etching.

VII.—NEW ENGLAND, COMPRISING MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, AND CONNECTICUT.

193.

1817—Hitchcock (E.). A geological map of a part of Massachusetts on Connecticut River.

Accompanying "Remarks on the geology and mineralogy of a section of Massachusetts on Connecticut River, with a part of New Hampshire and Vermont." Amer. Journ., Silliman. Vol. I. New York, 1819.

194.

1818.—Dana (J. F.) and **Dana** (S. L.) A geological map of Boston and its vicinity.

Accompanying "Outlines of the mineralogy and geology of Boston and its vicinity," with a geological map. Boston, 1818.

195.

1819—Dewey (C.). A geological map of the northwest part of Massachusetts. Scale, 2 miles to the inch.

Accompanying "Sketch of the mineralogy and geology of the vicinity of Williams College, Williamstown, Mass." Amer. Journ., Silliman. Vol. I. New York, 1819.

196.

1822—Hitchcock (E.). A geological map of the Connecticut. Scale, 5 miles to $\frac{3}{4}$ of an inch.

Accompanying "A sketch of the geology, &c. of the regions contiguous to the river Connecticut." Amer. Journ., Silliman. Vol. VI. New Haven, 1823.

197.

1824—Dewey (C.). A geological map of the county of Berkshire, Mass., and of a small part of the adjoining States.

Accompanying "A sketch of the geology and mineralogy of the western part of Massachusetts and a small part of the adjoining States." Amer. Journ. Silliman. Vol. VIII. New Haven, 1824.

198.

1824—Hitchcock (E.) Outlines of the geology of Martha's Vineyard, &c.

Accompanying "Notices of the geology of Martha's Vineyard and the Elizabeth Islands." Amer. Journ. Silliman. Vol. VII, p. 336, Plate IV. New Haven, 1824.

Reprinted in Journal of Science of the Royal Institution of London, February, 1824.

199.

1827—Nash (A.). Geology of the lead mines and veins of Hampshire County, Massachusetts. Scale, 3 miles to an inch.

Accompanying "Notices of the lead mines and veins of Hampshire County, Massachusetts, and of the geology and mineralogy of that region." Amer. Jour. Silliman. Vol. XII, p. 270. New Haven, 1827.

200.

1832—Hitchcock (E.). A geological map of Massachusetts. Scale, 5 miles to three-quarters of an inch.

Accompanying "Report on the geology of Massachusetts under the direction of the government of that State." Amer. Jour. Silliman. Vol. XXII. New Haven, 1833.

Is also published separately.

201.

1833—Hitchcock (E.). A geological map of Massachusetts.

Accompanying "Report on the geology, mineralogy, &c., of Massachusetts, with an atlas in 4° of plates." Plate I. Amherst, 1853.

202.

1837—Hitchcock (E.). Geology of Portland and its vicinity.

Accompanying "Sketch of the geology of Portland and its vicinity," in Boston Journal of Natural History, Vol. I, p. 360. Boston, 1837.

The copy seen of this map has not been colored; there are merely a few black etchings on it.

203.

1840—Jackson (C. T.). A geological map of Rhode Island. Scale, 3 miles to an inch.

Accompanying "Report on the geological and agricultural survey of the State of Rhode Island." Providence, 1840.

204.

1841—Hitchcock (E.). A geological map of Massachusetts. Fourth edition.

Accompanying "Final report on the geology of Massachusetts," Vol. I, Plate 52. Frontispiece. 4°. Northampton, 1841.

The author calls it an "Index to a Geological Map of the State"; and adds: "Whenever the large map shall be completed, and the government wish, I shall be ready to color it geologically." The larger map was published in 1844, under the title, "Geological map of Massachusetts, made by order of the legislature." Scale, 5 miles to an inch, 1:316,800. It is placed at the left hand lower corner of the large topographical map published by the legislature. Boston, 1844.

205.

1842—Percival (J. G.). A geological map of Connecticut.

Accompanying "Report on the geology of the State of Connecticut." New Haven, 1842.

Black, with the outlines of the formations and letters.

206.

1844—Hitchcock (E.). Geological map of Massachusetts made by order of the legislature. Scale, 5 miles to an inch, or 1:316,800. Boston, 1844.

It is placed at the left hand lower corner of the large topographical map published by the legislature.

See **Hitchcock** (Edward), 1841—No. 204.

207.

1844—Jackson (C. T.). A geological map of New Hampshire. Scale, 6 miles to the inch.

Accompanying "Final report on the geology and mineralogy of the State of New Hampshire." 4°. Concord, 1844.

Black, with conventional signs only.

208.

1845—Jackson (C. T.). A geological map of New Hampshire. Scale, 6 miles to the inch.

Accompanying "Views and map illustrating the scenery and geology of the State of New Hampshire." Boston, 1845.

See **Jackson** (C. T.), 1844, same map—No. 207.

209.

1853—Hitchcock (E.). (Geological map.) Bristol and Rhode Island coal field.

Accompanying "Report on certain points in the geology of Massachusetts." House (Document) No. 39, p. 4. Boston, 1853.

No place or date of publication on the map. It is the first geological map printed mechanically in colors in America, by A. Sonrel, of Woburn, Massachusetts.

210.

1857—Hitchcock (E.). Ichno-geological map of the Connecticut Valley.

Accompanying "A report on the sandstone of the Connecticut Valley, especially its fossil foot-marks." 4°. Plate II. Boston, 1858.

211.

1857—Hitchcock (E.). Ichno-geological map of the Connecticut Valley (portion in Massachusetts).

Accompanying "Some indications of recent sensitiveness to unequal pressures in the earth's crust." By H. F. Walling. Proceedings of American Association for the advancement of science. Vol. XXVII, p. 192. Salem, 1879.

212.

1860—Hager (A. D.). Geological map of Plymouth, Vermont.

Accompanying "Report on the geology of Vermont," in two vols., 4°, Vol. II, Plate XVIII. Claremont, N. H., 1861.

213.

1860—Anonymous (Hitchcock, C. H.). Road map of the island of Rhode Island or Aquidneck. Scale, 1 inch to the mile. Newport, (R. I.), 1860.

Presented by the city of Newport to the members of the American Association for the Advancement of Science August 1, 1860. Colored geologically.

214.

1861—Hager (A. D.). Geological map of the State of Vermont.

Accompanying "Map of the State of Vermont under the direction of H. F. Walling," in four sheets. A small map in the corner of the title sheet. New York, 1861.

215.

1861—Hitchcock (father and sons). Geological map of a part of Rutland County and Isle la Motte, Vermont.

Accompanying "Report on the Geology of Vermont," in two volumes, 4to, Vol. II, Plate VIII. Claremont, N. H., 1861.

216.

1861—Hitchcock (father and sons). Geological map of Vermont, traced out and compiled by the members of the geological survey, Messrs. Edward Hitchcock, Edward Hitchcock, jr., Charles H. Hitchcock, and Albert D. Hager. Scale, 1:400,000.

Accompanying "Report on the geology of Vermont," in two volumes, 4to, Vol. II. Claremont, N. H., 1861.

217.

1861—Hitchcock (C. H.). Map of the surface geology of Vermont. Scale, 1:400,000.

Accompanying "Report on the geology of Vermont," in two volumes, 4to, Vol. II. Claremont, N. H., 1861.

218.

1862—Hitchcock (C. H.). Geological map of Northern Maine.

Accompanying "Notes on the geology of Maine," in Proceed. of the Portland Society of Nat. Hist., Vol. I, Part I., p. 84. Portland, 1862.

Black etching and geological indications.

See **Hitchcock** (C. H.), 1862—No. 219.

219.

1862—Hitchcock (C. H.). Geological map of Northern Maine.

Accompanying "General report upon the geology of Maine," sixth annual report of the secretary of the Maine Board of Agriculture, p. 318. Augusta, 1861.

Black etching and geological indications. The report is dated 1861 and the map 1862.

220.

1863—Hitchcock (C. H.). (No title on the map.) Geological map of the country between Belfast and Saint George, west side of Penobscot Bay, Maine.

Accompanying "Second annual report upon the Nat. Hist. and Geology of the State of Maine," Part II, p. 227. (Boston) 1863.

Black etching and colors. No name of place of publication, but the small map was lithographed in Boston.

221.

1863—Hitchcock (C. H.). Geology of Rockport and vicinity.

Accompanying "Second annual report upon the Nat. Hist. and Geology of the State of Maine," p. 242. (Boston) 1863.

Black etching.

222.

1869—Hitchcock (C. H.). Geological map of part of the Ammonoosuc gold field, New Hampshire.

Accompanying "First annual report upon the geology and mineralogy of the State of New Hampshire." Manchester, 1869.

223.

1870—Hitchcock (C. H.). Map illustrating the distribution of granite in New Hampshire.

Accompanying "Second annual report upon the geology and mineralogy of the State of New Hampshire." Manchester, 1870.

224.

1871—Hitchcock (C. H.). Geological map of Massachusetts. Scale, 10 miles to an inch.

Accompanying "Official Topographical atlas of Massachusetts," by H. F. Walling and O. W. Gray. Folio, p. 18. Boston, 1871.

225.

1872—Hitchcock (C. H.). (No title.) Geological map of the White Mountains.

Accompanying "Report of the geological survey of the State of New Hampshire," showing its progress during the year 1871. Nashua, 1872.

226.

1874—Marcou (Jules). Carte géologique des bords du Lac Champlain entre Georgia (Vermont), Chazy (New York), et Phillipsburgh (Canada).

Accompanying "Sur les colonies dans les roches Taconiques des bords du Lac Champlain," Bull. Soc. Géol. France," 3ième série, Vol. IX, p. 18. Paris, 1880.

Scale, 1:160,000, is not given on the map, owing to a mistake of the engravers.

227.

1877—Crosby (W. O.). Geological map of Eastern Massachusetts and of Boston and vicinity. Scale, 1 mile to the inch for Boston and 5 miles to 1 inch for Eastern Massachusetts.

Accompanying "Contributions to the geology of Eastern Massachusetts." Occasional papers of the Boston Society of Natural History, III. Boston, 1880.

These two maps are on the same large sheet. The smaller one (Eastern Massachusetts) occupying the right-hand lower corner.

228.

1877—Hitchcock (C. H.). Geological map of New Hampshire and Vermont.

Accompanying "A topographical atlas of New Hampshire," by Walling. (New York,) 1877.

229.

1877—Hitchcock (C. H.). Geological map illustrating the relation of the New Hampshire formations to those of the adjacent territory.

Accompanying "The geology of New Hampshire, Vol. 11, p. 8. Plate I. Concord, 1877.

Black etching.

230.

1878—Hitchcock (C. H.). (No title.) Map of the Ammonoosuc mining district.

Accompanying the "Report on the geology of New Hampshire." Folio atlas. New York, 1878.

On the map itself no name of author, no date, and no place of publication are inscribed.

331.

1878—Hitchcock (C. H.). (No title.) General geological map of New Hampshire, embracing portions of Maine, Vermont, and Quebec. Scale, 2½ miles to the inch.

Accompanying the "Report on the geology of New Hampshire." Folio atlas. New York, 1878.

Six sheets. No title, no date, nor scale are inscribed on the map. The explanation is to be found in Vol. II, p. 672, of "Geology of New Hampshire."

232.

1881—Hawes (G. W.). Map of the Mount Willard region. Scale, 2½ miles to 1 inch.

Accompanying "The Albany granite, New Hampshire, and its contact phenomena," Amer. Journ. Silliman. 3d series, Vol. XXI, p. 22. New Haven, 1881.

Black etching.

VIII.—NEW YORK AND NEW JERSEY.

233.

1822—Barton (D. W.). Barton on the Catskills.

Accompanying "Notice of the geology of the Catskills." Amer. Journ. Silliman. Vol. IV, p. 250. New Haven, 1822.

Black etching and geological indications.

234.

1830—Eaton (Amos). This colour'd map exhibits a general view of the economical geology of New York and part of the adjoining States.

Accompanying "Geological text-book prepared for popular lectures on North American geology with applications to agriculture and the arts." Albany, 1830.

This is the first attempt at a geological map of the State of New York.

235.

1831—Young (J. B.) and **Heron** (J.). Geological mineralogical map of a part of Orange County, New York. Scale, 2 miles to the inch.

Accompanying "Mineralogy and geology of the counties of Orange (N. Y), and Sussex (N. J.), by Charles U. Shepard. Amer. Journ. Silliman. Vol. XXI, p. 321. New Haven, 1832.

Black etching.

236.

1839—Rogers (H. D.). A geological map of New Jersey. Scale, 6 miles to one inch.

Accompanying "Description of the geology of the State of New Jersey, being a final report." Philadelphia, 1840.

237.

1842—Emmons (E.). Map of the county of Jefferson.

Accompanying "Geology of New York," Part II, comprising the survey of the second geological district. Plate XVI. 4°. Albany, 1842.

238.

1842—Emmons (E.). Geological map of Clinton County.

Accompanying "Geology of New York," Part II, comprising the survey of the second geological district. Plate XVII. 4°. Albany, 1842.

239.

1842—New York. Geological map of the State of New York.

Accompanying "Geology of New York," by Emmons, Hall, Mather, and Vanuxem. Four vols. 4°. New York, 1842.

Each volume giving a notice of a geological district comprised in the general map also due to the same four authors.

This map is very important, and marks a second starting point in American geology. It gives a good classification of the American paleozoic rocks due mainly to the researches of Ebenezer Emmons and Vanuxem. But a discrepancy exists between the map and the volumes of explanation which show a want of harmony and a great difference of views between the geologists who had charge of the publication. In the volume Part IV we find in the "Tabular view of the sedimentary rocks of New York," and in the "Plan of arrangement in the State geological collection," the Taconic system, spelled also Taghconick; but no trace of it exists on the geological map. Emmons being the author of the main part of the classification, and being convinced that a system of strata older than the Potsdam sandstone existed, maintained his view in the first volume of the "Agriculture of New York," where he describes "the Taconic system." And in order to show the geographical distribution and position of these rocks, he prepared a geological map of the State of New York (see "Agriculture," part V, p. 361), a reprint, as he says, in the main of the map which accompanies the first reports (*i. e.*, the map published by legislative authority referred to here). Important additions, however, were made to it. Parts of Vermont, Massachusetts, and Connecticut, were included; in addition to this, the Taconic system was marked out and colored and made a distinct part of the map; it occupies a belt extending from the Canadian line to New Jersey and Tappan Bay on the Hudson River below the Highlands. "The three thousand copies of this modified map of the State, showing the extent of the Taconic in New York, were stolen or destroyed by persons unknown, so that they were never issued with the proper volume." (Extract from a letter of E. Emmons to J. Marcou, dated Raleigh, N. C., December 28, 1860.)

240.

1842—Mather (W. W.). Geological map of Long and Staten Islands, with the environs of New York.

Accompanying "Geology of New York." Part I comprising the geology of the first geological district. Plate I. 4°. Albany, 1843.

241.

1843—Cozzens (S.). A geological map of New York or Manhattan Island.

Accompanying "A geological history of Manhattan or New York Island." Plate I, p. 10. New York, 1843.

242.

1845—Lyell (Sir Charles). Birds-eye view of the falls of Niagara and adjacent country, coloured geologically.

Accompanying "Travels in North America in the years 1841-42." 2 vols. Frontispiece of Vol. I. London and New York, 1845.

A panoramic geological map of the country between Lake Erie and the towns of Lewiston and Queenstown.

243.

1846—Lyell (Sir Charles). Birds-eye view of the falls of Niagara and adjacent country, coloured geologically.

Accompanying "Reisen in Nord-Amerika von Charles Lyell." German edition. Halle, 1846.

See **Lyell** (*Sir* Charles), 1845—No, 242.

244.

1855—Lyell (Sir Charles). Birds-eye view of the falls of Niagara and adjacent country, coloured geologically.

Accompanying "Travels in North America in the years 1841-42." 2 vols. Frontispiece of Vol I. 2d edition. London, 1855.

See **Lyell** (*Sir* Charles), 1845—242.

245.

1865—Credner (H.). Geologische Skizze von New York.

Accompanying "Geognostiche Skizze der Umgegend von New York." Zeitsch. Deut. Geol. Gesells. Vol. XVII, Taf. XIII. Berlin, 1865.

246.

1865—Cook (G. H.). Geological map of New Jersey.

Accompanying "Annual report of the geological survey of New Jersey for 1864." Trenton, 1865.

247.

1866—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Cretaceous formations: including the green-sand marl beds. Scale, 2 miles to an inch.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map, No. 3. Newark, 1868.

In two sheets.

248.

1867—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Map of Oxford furnace iron-ore veins. Scale, 8 inches per mile.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map No. 7. Newark, 1868.

249.

1867—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Map of zinc mines, Sussex County. Scale, 8 inches per mile.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map No. 8. Newark, 1868.

No explanation of the coloring on the map; there are mineralogical indications on the sections.

250.

1867—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Triassic formation, including the red sandstone and trap rocks of Central New Jersey. Scale, 2 miles to an inch.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map No. 2. Newark, 1868.

In two sheets.

251.

1867—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Tertiary and recent formations of Southern New Jersey.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map No. 4. Newark, 1868.

In two sheets; no scale is given, but it is evidently that of 2 miles to the inch.

252.

1868—Cook (G. H.). No title. (A geological map of New Jersey.) Scale, 20 miles to an inch.

Accompanying "Geology of New Jersey," by authority of the legislature; p. 39 of the introduction. Newark, 1868.

Black etching.

253.

1868—Cook (G. H.) and **Smock** (J. C.). Geological survey of New Jersey. Azoic and paleozoic formations, including the iron-ore and limestone districts. Scale, 2 miles to an inch.

Accompanying "Geology of New Jersey," by authority of the legislature; with a 4to atlas. Map No. 1. Newark, 1868.

In two sheets.

254.

1870—Credner (H.). Geognostische Skisse von New Jersey nach Rogers, Cook, and Smock.

Accompanying "Die Kreide von New Jersey." Zeitsch. Deut. Geol. Gesells. Vol. XXII, Taf. IV. Berlin, 1870.

Black etching and geological indications.

255.

1880—Cook (G. H.). Lake Passaic (a glacial lake). Scale, 6 miles to the inch.

Accompanying "Annual report of the State geologist for the year 1880." Trenton, 1880.

256.

1880—Cook (G. H.) and **Smock** (J. C.). The State of New Jersey. Economic geology. Scale, 6 miles to the inch.

Accompanying "Annual report of the State geologist for the year 1879." Trenton, 1879.

257.

1880—Dana (J. D.). Part of Western Cortlandt.

Accompanying "Geological relations of the limestone belts of Westchester County, New York." Amer. Journ. Silliman, 3d series, Vol. XX, p. 195. New Haven, 1880.

Black etching.

258.

1880—Dana (J. D.). Limestone areas of Westchester County. Scale, 3 miles to the inch.

Accompanying "Geological relations of the limestone belts of Westchester County, New York." Amer. Journ. Silliman, 3d series, Vol. XX, Plate V. New Haven, 1880.

In one color and black etching.

259.

1880—Dana (J. D.). Geological map of part of New York and New Jersey, from Prof. G. H. Cook's map of New Jersey. Scale, 10 miles to the inch.

Accompanying "Geological relations of the limestone belts of Westchester County, New York." Amer. Journ. Silliman, 3d series, Vol. XX, Plate IX. New Haven, 1880.

Black etching.

260.

1880—Dana (J. D.). Limestone areas of Dutchess, Westchester, and Putnam Counties, New York, and of part of Western Connecticut, with the Archæan of Putnam County, and the Palisade Trap range. Scale, 10 miles to the inch.

Accompanying "Geological relations of the limestone belts of Westchester County, New York." Amer. Journ. Silliman, 3d series, Vol. XX, Plate VIII. New Haven, 1880.

Black etching.

261.

1881—Abbott (C. C.). Map of area of Trenton gravel in vicinity of Trenton, N. J.

Accompanying "Primitive industry; or illustrations of the handiwork in stone, bone, and clay of the native races of the Northern Atlantic seaboard of America." p. 531. Salem, 1881.

262.

1881—Britton (N. L.). A geological map of Richmond County, New York. Scale, 1:120,000.

Accompanying "On the geology of Richmond County, New York." Ann. New York Acad. Sci., Vol. II. Plate XV, p. 161. New York, 1881.

263.

1881—Cook (G. H.) and **Smock** (J. C.). Geological map of New Jersey. Scale, 6 miles to 1 inch.

Accompanying "Geological Survey of New Jersey." Annual report of the State Geologist for the year 1881. Trenton, 1881.

A well-executed and clear geological map.

264.

1881—Dana (J. D.). Geological map of southern Westchester County and northern New York island. Scale, 2 inches to 1 mile.

Accompanying "Geological relations of the limestone belts of Westchester County, New York." Amer. Journ. Silliman, 3d series, Vol. XXI, Plate XIX. New Haven, 1881.

In one color, and geological indications.

265.

1881—Dana (J. D.). Part of Western Cortlandt.

Accompanying "On a case in which various massive crystalline rocks, including soda-granite, quartz-diorite, norite, hornblendite, pyroxenite, and different chrysolitic rocks, were made through metamorphic agencies in one metamorphic process. The Geological Magazine, 2d series, Vol. VIII, p. 60. London, 1881.

Black etching.

266.

1881—Dana (J. D.). Stony Point.

Accompanying "Geological relations of the limestone belts of Westchester County, New York. Origin of the rocks of the Cortlandt series." Amer. Journ. Silliman, 3d series, Vol. XXII, p. 112. New Haven, 1881.

Black, with geological indications.

267.

1881—Dana (J. D.). Map of parts of New York and New Jersey. Scale, 10 miles to 1 inch.

Accompanying "Geological relations of the limestone belts of Westchester County, New York. Origin of the rocks of the Cortlandt series." Amer. Journ. Silliman, 3d series, Vol. XXII, p. 106. New Haven, 1881.

Black etching.

268.

1881—Dana (J. D.). Map of part of western Cortlandt, showing the Peekskill, Verplanck, Tompkins, Cove, and Cruger limestone areas, by horizontal lining. Scale, 1 inch to ¼ mile.

Accompanying "Geological relations of the limestone belts of Westchester County, New York. Origin of the rocks of the Cortlandt series." Amer. Journ. Silliman, 3d series, Vol. XXII, p. 107. New Haven, 1881.

Black etching.

All these small maps by Mr. J. D. Dana are sketch-maps with geological indications.

269.

1822—Cist (Z.). Range of the anthracite formation of Pennsylvania.

Accompanying "Account of the mines of anthracite in the region about Wilkesbarre, Pennsylvania." Amer. Journ. Silliman, Vol. IV, p. 14. New Haven, 1822.

Black etching.

270.

1824—Finch (J.). Geology of Easton, &c.

Accompanying "A sketch of the geology of the country near Easton, Pennsylvania." Amer. Journ. Silliman, Vol. VIII. New Haven, 1824.

271.

1826—Troost (Gerard). Karte der Gegend von Philadelphia.

Accompanying "Geological survey of the environs of Philadelphia," cited by B. Cotta, in his "Geognostische Karten unseres Jahrhundert's," 1850, p. 48, No. 533. This map is unknown even in Philadelphia, and contemporaries of Troost, such as the late T. Conrad and Mr. Isaac Lea, had never heard of such a map. It is very doubtful if it exists.

272.

1834—Taylor (R. C.). Rough sketch of the position of the transition beds near Lewiston, Mifflin County, Pennsylvania, containing various species of fossil Fucoides. Scale, 1 inch to 1 mile.

Accompanying "On the geological position of certain beds which contain numerous fossil marine plants of the family Fucoides, near Lewiston, Mifflin County, Pennsylvania," in Transactions of the Geological Society of Pennsylvania, Vol. I, Part I, Plate IV. Philadelphia, 1834.

273.

1835—Koehler (H.). Petrographical map of the coal region of Tamaqua.

Accompanying "On the anthracite deposit at Tamaqua, Schuylkill County, Pennsylvania." Transactions of the Geological Society of Pennsylvania, Vol. I, Part II, p. 326. Philadelphia, 1835.

Black etching and geological indications.

274.

1835—Taylor (R. C.). Map of Kishacoquillas Valley. Scale, 5 miles to an inch.

Accompanying "Notice as to the evidences of the existence of an ancient lake, which appears to have formerly filled the limestone valley of Kishacoquillas, in Mifflen County, Pennsylvania." Transactions of the Geological Society of Pennsylvania, Vol. I, Part II, p. 198. Philadelphia, 1835.

275.

1848—Taylor (R. C.). Map of the group of anthracite basins in Pennsylvania.

Accompanying "Statistics of coal," p. 112. Philadelphia, 1848.

276.

1848—Taylor (R. C.). Map illustrative of the statistics of the coal trade of Pennsylvania. Showing the relative positions of the various anthracite and bituminous coal fields.

Accompanying "Statistics of coal," p. 144. Philadelphia, 1848.

277.

1857—Dalson (A. F.). Geological map of the Howard Hill coal field. Scale, 1 mile to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania. The geology of McKean County," by Chas. A. Ashburner. Vol. R, p. 168. Harrisburg, 1880.

278.

1857—Rogers (H. D.). Map of the anthracite and bituminous coal fields of Pennsylvania.

Accompanying "The geology of Pennsylvania." 4°. Vol. II, p. 1019. Edinburg, 1858.

Black etching.

279.

1858—Rogers (H. D.). Map of the mining district of Chester and Montgomery Counties.

Accompanying "The geology of Pennsylvania." 4°. Vol. II, Part III, p. 674. Edinburg, 1858.

280.

1858—Rogers (H. D.). Map of the Cornwall ore hills, Lebanon County.

Accompanying "The geology of Pennsylvania." 4°. Vol. II, Part IV, p. 719. Edinburg, 1858.

Black etching with geological indications.

281.

1858—Rogers (H. D.). Geological and topographical map of the anthracite fields of Pennsylvania. Scale, 2 miles to the inch.

Accompanying "The final report on the geological survey of the State 1858." 4°. Atlas. Edinburg, 1858.

In two sheets.

282.

1858—Rogers (H. D.). Geological map of the State of Pennsylvania, constructed from original surveys made between the years 1836 and 1857. Scale, 5 miles to the inch.

Accompanying "The final report on the geological survey of the State, 1858." 4°. Atlas. Edinburg, 1858.

In three sheets.

283.

1859—Tyson (P. T.). Geological illustrations (preliminary geological map of Maryland).

Accompanying "First report of Philip T. Tyson, State agricultural chemist, to the house of delegates of Maryland." Annapolis, 1860.

284.

1864—Green (W., jr.). Map of the Lackawanna coal field, Luzerne County, Pennsylvania.

Accompanying "Notes on the anthracite coal region of North America." Trans. North of England Inst. Mining Engrs. Vol. XIII, p. 25. Newcastle-upon-Tyne, 1864.

285.

1864—Lesley (J. P.). (No title.)

Accompanying "On the discovery of lignite in Pennsylvania." Proc. Amer. Phil. Soc., Vol. IX, Plate XI. Philadelphia, 1865.

Colored and with geological indications.

286.

1871—Lesley (J. P.). A map showing the topographical character of the southern part of the lands of the Pittsburgh and Baltimore coal, coke, and iron company, Ursina, in Somerset County, Pennsylvania. Scale of 1 mile (to the inch?)

Accompanying "Note on an apparent violation of the law of regular progressive debituminization of the American coal beds coming East." Proc. Amer. Phil. Soc., Vol. XII, p. 131. Philadelphia, 1873.

Black, with indications of limestone and ferriferous coal bed banks written on it.

287.

1871—Platt (Franklin, jr.). Map of the Pittsburgh and Baltimore coal, coke, and iron company's lands, Ursina, Somerset County, Pennsylvania. Scale, 1,500 feet to an inch.

Accompanying "Note on an apparent violation of the law of regular progressive debituminization of the American coal beds coming East." Proc. Amer. Phil. Soc., Vol. XII, p. 160. Philadelphia, 1873.

A topographical map, with lithological and mineralogical indications written on the map.

288.

1871—Lesley (J. P.). A map showing the areas occupied by the 6 foot coal bed in the hills north of Ursina. Scale, 1 mile to the inch.

Accompanying "Note on apparent violation of the law of regular progressive debituminization of the American coal beds coming East." Proc. Amer. Phil. Soc., Vol. XII, p. 129. Philadelphia, 1873.

Black etching.

289.

1872—Lesley (J. P.). (No title.) Scale, 1 inch to 1 mile.

Accompanying "Saint Clairsville and Bedford Railroad, and Dunning's Creek fossil iron ore." Proc. Amer. Phil. Soc., Vol. XIII, p. 256. Philadelphia, 1873.

In one color and geological indications.

290.

1872—Smith (S.). Topographical map of Gaines Coal Basin, in Gaines Township, Tioga County. Contour curves, 100 feet apart. Scale, 2,000 feet to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, vol. G. G. G., by Andrew Sherwood. Harrisburg, 1880.

Black etching.

291.

1872—Strauch and Cochran. Map of the first and second anthracite coal fields of Pennsylvania.

Accompanying "Coal regions of America," by James Macfarlane. p. 17. New York, 1873.

Black etching.

292.

1873—Lesley (J. P.). Topographical map of Pennsylvania, colored for the principal geological formations.

Accompanying "Coal regions of America," by James Macfarlane. New York, 1873.

293.

1873—Lesley (J. P.). A study, in ten-foot contour-lines, of the structure and erosion of Brush Mountain, showing the outcrops of the two upper silurian fossil iron ore beds passing Tyrone Gap, Blair County, Pennsylvania.

Accompanying "A study of the structure and erosion of Brush Mountain." Proc. Amer. Phil. Soc., Vol. XIII. Philadelphia, 1873.

Black, with geological indications.

294.

1874—Clark (E., jr.). A map in ten-foot contour lines, showing the ranges of brown hematite ore banks in a portion of Lehigh County. Scale, 3,200 feet to the inch.

Accompanying "2d Geol. Surv. Pennsylvania. Brown hematite ore ranges of Lehigh County," by Frederick Prime, jr. Vol. D. Harrisburg, 1875.

Black etching, with geological indications. See note by State geologist, page 67.

295.

1874—Frazer (P., jr.) and **Lehman** (A. E.). A map of the central belt of brown hematite ore mines in York and Adams Counties. Scale, 1 mile to the inch.

Accompanying "2d Geol. Surv. Pennsylvania. Report of progress in York and Adams Counties," by Persifor Frazer. Vol. C, p. 196. Harrisburg, 1876.

296.

1874—Lesley (J. P.) and **Platt** (F.). A study, in twenty-foot contour lines, of the structure and erosion of a part of the lower silurian iron ore region northeast of the Little Juniata River, in Huntingdon and Centre Counties, Pennsylvania. Scale, before reduction by photograph, 3.325 inches to 1 mile.

Accompanying "The brown hematite ore banks of Spruce Creek, Warrior's Mark Run, and Half Moon Run, in Huntingdon and Centre Counties, Pennsylvania, along the line of the Lewisburg, Centre County, and Tyrone Railroad." Proc. Amer. Phil. Soc., Vol. XIV, p. 176. Philadelphia, 1876.

Black, with geological indications.

297.

1875—Wrigley (H. E.). Map B, the Pennsylvania oil regions proper, with all adjoining developments in Ohio, New York and West Virginia.

Accompanying "2d Geol. Surv. Pennsylvania." Special report on the petroleum of Pennsylvania, by Henry E. Wrigley, Vol. J. Harrisburg, 1875.

Black etching.

298.

1875—Frazer (P., jr.) and **Lehman** (A. E.). General map of the ore ranges of York and Adams Counties. Scale, 3 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in York and Adams Counties, by Persifor Frazer. Vol. C, p. 64. Harrisburg, 1876.

299.

1876—Boyd (E. F.). Map of the first and second anthracite coal fields of Pennsylvania.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLIV. Newcastle-upon-Tyne, 1876.

300.

1876—Boyd (E. F.). Map showing the anthracite coal fields of Pennsylvania with their outlets to tide-water.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLV. Newcastle-upon-Tyne, 1876.

Black etching.

301.

1876—Boyd (E. F.). Map of the anthracite coal fields of Pennsylvania.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLVI. Newcastle-upon-Tyne, 1876.

302.

1876—Boyd (E. F.). Oil regions of Pennsylvania, U. S.

Accompanying "Remarks on the coal measures and oil produce of the United States of America, collected during a visit to that country in the autumn of 1875." Trans. North of England Inst. Mining Engrs., Vol. XXV, Plate XLIX. Newcastle-upon-Tyne, 1876.

Black, with geological indications.

303.

1876—Lesley (J. P.) and **White** (I. C.). Map of southern Butler, showing outcrops of the lower coals. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Beaver River district, by I. C. White. Vol. Q. Harrisburg, 1878.

304.

1876—Lesley (J. P.) and **White** (I. C.). Map of North Allegheny, showing outcrops of the Pittsburgh and upper Freeport coals. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Beaver River district, by I. C. White. Vol. Q. Harrisburg, 1878.

305.

1876—Lesley (J. P.) and **White** (I. C.). Map of Beaver County, showing outcrops of the Pittsburgh, Upper Freeport, and Kittanning coals. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Beaver River district, by I. C. White. Vol. Q. Harrisburg, 1878.

306.

1876—Lesley (J. P.) and **Sherwood** (A.). Geological map of Potter County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Potter County, by Andrew Sherwood. Vol. GGG, Harrisburg, 1880.

307.

1876—Lesley (J. P.) and **Sherwood** (A.). Geological map of Wyoming County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Pike and Monroe Counties, by I. C. White. Report of progress. Vol. G 6. Harrisburg, 1882.

In the same volume G 6 there is a large geological map of Pike and Monroe Counties, with the date of 1882 on the map, and consequently posterior to the limit of this catalogue. 1881.

308.

1876—Prime (Fred.). Geological and topographical map showing the limestone of Lehigh County including the ranges of brown hematite ore banks.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1875, '76. Lehigh district. Vol. DD. Harrisburg, 1878.

In four sheets.

309.

1876—Schellenberg (F. Z.). Map showing outcrops of Pittsburgh coal in North Huntingdon Township, Westmoreland County, Pa.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1876. Fayette and Westmoreland districts, by J. J. Stevenson. Vol. KK, p. 350. Harrisburg, 1877.

Black etching.

310.

1876—Sherwood (A.). Geological map of Bradford County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Bradford and Tioga Counties. Vol. G. Harrisburg (1878).

No date on the volume.

311.

1876—Sherwood (A.). Geological map of Tioga County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Bradford and Tioga Counties. Vol. G. Harrisburg (1878).

No date on the volume.

312.

1876—Stevenson (J. J.) and **White** (I. C.). Geological map of Allegheny County.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1876. Fayette and Westmoreland district. Vol. KK. Harrisburg, 1877.

313.

1877—Lesley (J. P.) and **Platt** (F.). A geological map of the Salisbury central coal basin in Somerset County, Pa.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress. Vol. HHH. Harrisburg, 1877.

Black, without truly any geological indications or signs.

314.

1877—Stevenson (J. J.). Geological map of Fayette County west of Chestnut Ridge. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1876. Fayette and Westmoreland district. Vol. KK. Harrisburg, 1877.

315.

1877—Stevenson (J. J.). Geological map of Westmoreland County west of Chestnut Ridge. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1876. Fayette and Westmoreland district. Vol. KK. Harrisburg, 1877.

316.

1878—Ashburner (C. A.). Isometric projection to illustrate the direction and amount of throw along the plan of the fault at Three Springs, Huntingdon County. Scale, 800 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Juniata district. Vol. F. Plate XVIII. Harrisburg, 1878.

Black, with geological indications.

317.

1878—Ashburner (C. A.). Geological map of a belt of country lying along the line of the East Broad Top Railroad, from the crest of Sideling Hill across Smith's, Hare's, and Great Aughwick Valleys to the crest of Black Log Mountain, Huntingdon County. Scale, 1,600 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Juniata district. Vol. F. Plate I. Harrisburg, 1878.

318.

1878—Ashburner (C. A.). Geological map of the environs of Orbisonia, at Rockhill Gap, Huntingdon County, showing the outcrops of the Clinton, Oriskany, and Marcellus iron beds.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Juniata district. Vol. F. Plate II. Harrisburg, 1878.

319.

1878—Ashburner (C. A.). Geological section passing near Three Springs, Huntingdon County, constructed from exposures on and near the line of the East Broad Top Railroad, showing the order of the Devonian and Silurian strata from Plank Cabin Valley to Black Log Mountain. Scale, 1,600 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Juniata district. Vol. F. Plate XVI. Harrisburg, 1878.

In two sheets. This section is accompanied by fragments of geological maps.

320.

1878—Ashburner (C. A.) Geological section of Devonian and Silurian strata exposed along Sideling Hill Creek, extending from the East Broad Top coal basin, Huntingdon County, to the crest of Black Log Mountain, at Potts Gap, Fulton County. Scale, 1,600 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in the Juniata district. Vol. F. Plate XVII. Harrisburg, 1878.

In two sheets. This section is accompanied by fragments of geological maps.

321.

1878—Frazer (P., jr.). Geological map of Lancaster County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in 1877; the geology of Lancaster County. Vol. CCC. Harrisburg, 1880.

322.

1878—Lesley (J. P.) and **White** (I. C.). Geological map of Lawrence County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Lawrence County, by I. C. White. Vol. QQ. Harrisburg, 1878.

323.

1878—Lesley (J. P.) and **Frazer** (P., jr.). Geological map of Lancaster County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Vol. CCC. Atlas. Harrisburg, 1879.

324.

1878—Lesley (J. P.) and **Platt** (W. G.). Geological map of Indiana County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Indiana County, by W. G. Platt. Vol. H4. Harrisburg, 1878.

325.

1878—Prime (Fred.). Map of the iron-ore mines at Ironton, Lehigh County. Scale, 300 feet for 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1875–'76, Lehigh district. Vol. DD. Harrisburg, 1878.

326.

1878—Stevenson (J. J.). Geological map of Westmoreland County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1877, Ligonier Valley, by J. J. Stevenson. Vol. KKK. Harrisburg, 1878.

327.

1878—Stevenson (J. J.). Geological map of Washington County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1877, Ligonier Valley. Vol. KKK. Harrisburg, 1878.

328.

1878—Stevenson (J. J.). Geological map of Fayette County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1877, Ligonier Valley. Vol. KKK. Harrisburg, 1878.

329.

1878—Stevenson (J. J.). Geological map of Green County, with depth of the Pittsburgh and Waynesburg coal at various localities. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, 1877, Ligonier Valley. Vol. KKK. Harrisburg, 1878.

330.

1879—Ashburner (C. A.) and **Sheafer** (A. W.). A geological map of McKean County, and a map of a portion of Cattaraugus County, New York. Scale, 1½ miles to 1 inch, or $\frac{1}{95040}$.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of McKean County, by Chas. A. Ashburner. Atlas R, Plate X. Harrisburg, 1880.

331.

1879—Burlingame (E. H.). A topographical map of part of the Little Pine Creek coal basin in Pine Township, Lycoming County. Contour curves 10 feet apart. Scale, 1,600 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, geology of Lycoming County, by Franklin Platt. Vol. GG. Harrisburg, 1880.

This map, in two sheets, is in black etching and in one color, with geological indications, and is published by permission of the author.

332.

1879—Carll (J. F.) and **Chance** (H. M.). Geological map of Venango County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of the oil regions of Warren, Venango, Clarion, and Butler Counties. Oil region maps and charts. Vol. III. Plate 20. Harrisburg, 1880.

333.

1879—Chance (H. M.). Geological map of Clinton County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress, Clinton County. Vol. G4. Harrisburg, 1880.

334.

1879—Chance (H. M.). Geological map of Clarion County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Clarion County, by H. Martyn Chance. VV, Plate II. Harrisburg, 1880.

335.

1879—Frazer (P., jr.). Geological map of York County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in 1877. Vol. CCC. Harrisburg, 1880.

336.

1879—Lesley (J. P.) and **Ashburner** (C. A.). Topographical map of the Alton coal basin. Scale, 3,200 feet to the inch. Contour lines, 100′.

Accompanying "2d Geol. Surv. Pennsylvania." McKean County. Vol. R. Atlas. Harrisburg, 1879.

Coloured geologically.

337.

1879—Lesley (J. P.) and **Chance** (H. M.). Geological map of northern Butler. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." The northern townships of Butler County, by H. Martyn Chance. Vol. V. Harrisburg, 1879.

338.

1879—Lesley (J. P.) and **Chance** (H. M.). Map of instrumental survey of the valleys of the Beaver and Shenango Rivers and Slippery Rock Creek. Scale, 8,000 feet to 1 inch.

Accompanying "2d Geo. Surv. Pennsylvania." The northern townships of Butler County, by H. Martyn Chance. Vol. V. Harrisburg, 1879.

339.

1879—Lesley (J. P.) and **Chance** (H. M.). A map in 24 contour lines of the Allegheny Valley near Parker, in Armstrong and Butler Counties. Scale, 1.200=1 inch.

Accompanying "2d Geo. Surv. Pennsylvania." The northern townships of Butler County, by H. Martyn Chance. Vol. V. Harrisburg, 1879.

Black etching.

340.

1879—Lesley (J. P.) and **White** (I. C.). Geological map of Mercer County. Scale, 2 miles to the inch.

Accompanying "2d Geo. Surv. Pennsylvania." The geology of Mercer County, by I. C. White. Vol. QQQ. Harrisburg, 1880.

341.

1879—Lesley (J. P.) and **Frazer** (P. jr.). Geological map of York County. Scale, 2 miles to the inch.

Accompanying "2d Geo. Surv. Pennsylvania." Vol. CCC. Atlas. Harrisburg, 1879.

342.

1879—Sherwood (A.). Geological map of Lycoming County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Lycoming and Sullivan counties. Field notes, by Andrew Sherwood. Coal basins, by Franklin Platt. Vol. GG. Harrisburg, 1880.

343.

1879—Sherwood (A.). Geological map of Sullivan County. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Sullivan County, by Franklin Platt. Vol. GG. Harrisburg, 1880.

Field notes, by Andrew Sherwood. Coal basins, by Franklin Platt.

344.

1880—Platt (W. G.). Geological map of Armstrong County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Armstrong County. Vol. H5. Harrisburg, 1880.

345.

1880—Platt (W. G.). Geological map of Jefferson County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Report of progress in Jefferson County. Vol. H6. Harrisburg, 1881.

346.

1880—White (I. C.). Geological map of Crawford and Erie Counties. Scale, 2 miles to the inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Erie and and Crawford Counties, by I. C. White. Vol. Q. Harrisburg, 1881.

In two sheets.

347.

1881—Ashburner (C. A.). Map of part of the Mahanoy and Shenandoah basins in the second anthracite coal fields, showing the shape of the floor of the mammoth bed by contour lines 50 feet apart, and the area of the bed worked out and under development. Scale, 1,000 feet to 1 inch, 12 meters to 1 milimeter $\frac{1}{12000}$ of nature.

Accompanying "New method of mapping the anthracite coal fields of Pennsylvania." Trans. Amer. Inst. Mining Engrs., Vol. IX, Ashburner, Plate I, p. 516. Easton, Pa., 1881.

In colored etching and geological indications, it is essentially the same as the map in "2d Geol. Surv. Pennsylvania," Vol. A 2, by Ashburner, C. A., and Sheafer, A. W., 1881—No. 348.

348.

1881—Ashburner (C. A.) and **Sheafer** (A. W.). Map of part of the Mahanoy and Shenandoah basins in the second anthracite coal field. Scale, 800 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." A special report upon the causes, kinds, and amount of waste in mining anthracite, by Franklin Platt. Vol. A 2. Harrisburg, 1881.

In colored etching and geological indications. This map also appeared in Trans. Amer. Inst. Mining Engrs., Vol. IX, p. 516—No. 347.

349.

1881—Harden (E. B.). Geological model of part of Blair, Bedford, and Huntingdon Counties, Pennsylvania. Scale, 5 miles to the inch.

Accompanying "Proc. Amer. Phil. Soc.," Vol. XIX, No. 109. Philadelphia, 1881.

In black, with numbers corresponding to colours; apparently a phototype.

350.

1881—Platt (F.). Topographical and geological map of that part of Blair, Bedford, and Huntingdon Counties, south of the Little Juniata River, between Tussey and Alleghany Mountains, including Morrison's Cove, Canoe, Sinking, and Scotch Valleys. Scale, 1,600 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Blair atlas, T. Harrisburg, 1881.

In fourteen sheets.

351.

1881—Platt (F.). Index to the topographical and geological map of that part of Blair, Bedford, and Huntingdon Counties, south of the Little Juniata River, between Tussey and Alleghany Mountains, including Morrison's Cove, Canoe, Sinking, and Scotch Valleys. Scale, 8,000 feet to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Blair atlas, T. Harrisburg, 1881.

352.

1881—White (I. C.). Geological map of Susquehanna and Wayne Counties, and a part of Lackawanna County.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Susquehanna and Wayne County, by I. C. White, Vol. G 5. Harrisburg, 1881.

X.—OHIO, INDIANA, AND MICHIGAN.

353.

1836—Hildreth (S. P.). A topographical and geological map of the coal measures, and of the muriatiferous and ferruginous deposits in the secondary region of the valley of the Ohio.

Accompanying "Observations on the bituminous coal deposits of the valley of the Ohio and the accompanying rock strata." Amer. Journ. Silliman, Vol. XXIX. New Haven, 1836.

Black etching, and with geological indications.

354.

1838—Locke (John). Geological map of Adams County, Ohio.

Accompanying "Second annual report on the geological survey of the State of Ohio," p. 238. Columbus, 1838.

Black, with geological indications.

355.

1844—Locke (John). Geological and magnetical chart of Copper Harbor (Lake Superior). Scale, $2\frac{3}{4}$ inches to a mile.

Accompanying "Observations made in the years 1838, '39, '40, '41, '42, and '43, to determine the magnetical dip, etc." Trans. Amer. Phil. Soc. New series. 4°. Vol. IX, Article XI, Plate XLV. Philadelphia, 1846.

Black etching, and geological indications.

356.

1845—Burt (W. A.). Geological map of township lines in the northern peninsula of Michigan.

Accompanying "Geological report." Message from the President of the United States, Part III, p. 811. Washington, 1849.

Black, with lithological indications.

357.

1845—Houghton (Douglass). Geological map of townships in the northern peninsula of Michigan.

Accompanying "Geological report." Message from the President of the United States, Part III, p. 880. Washington, 1849.

Black, with lithological indications.

358.

1846—Burt (W. A.). Geological map of a district of township lines in the northern peninsula of Michigan.

Accompanying "Geological report." Message from the President of the United States, Part III, p. 811. Washington, 1849.

Black, with lithological indications.

359.

1846—Higgins (S. W.) and **Hubbard** (Bela). Geological map of a district E. and W. of the Ontonagon (Lake Superior).

Accompanying "Geological report." Message from the President of the United States, Part III, p. 833. Washington, 1849.

Black, with lithological indications.

360.

1846—Hubbard and **Ives.** Geological map of the district subdivided by Messrs. Hubbard and Ives.

Accompanying "Geological report of Bela Hubbard." Message from the President of the United States, Part III, p. 882. Washington, 1849.

A map of the district between L'Anse and Granite Point, Lake Superior.

In black, with lithological indications.

361.

1848—Whittlesey (Charles). Outline map of the geological formation of Ohio.

Accompanying "Outline sketch of the geology of Ohio," in Howe's Historical Collections, p. 579. (Cleveland), 1848.

Black etching, with geological indications. Reprinted in 1856.

362.

1849—Jackson (C. T.). Geological map of Keweenaw Point, Lake Superior.

Accompanying "Report on the geological survey of the mineral lands of the United States in the State of Michigan." Message from the President of the United States. Part III. Washington, 1849.

363.

1849—Jackson (C. T.). Geological map of Isle Royale, Lake Superior.

Accompanying "Report on the geological survey of the mineral lands of the United States in the State of Michigan." Message from the President of the United States. Part III. Washington, 1849.

364.

1850—Foster (J. W.) and **Whitney** (J. D.). Geological map of Keweenaw Point, Lake Superior, Michigan; assisted by S. W. Hill and W. Schlatter.

Accompanying "Report on the geology and topography of a portion of the Lake Superior land district in the State of Michigan." Part I. Copper lands. Washington, 1850.

365.

1850—Foster (J. W.) and **Whitney** (J. D.). Geological map of Isle Royale, Lake Superior, Michigan; assisted by S. W. Hill and W. Schlatter.

Accompanying "Report on the geology and topography of a portion of the Lake Superior land district in the State of Michigan." Part I. Copper lands. Washington, 1850.

366.

1850—Foster (J. W.) and **Whitney** (J. D.). Geological map of the district between Portage Lake and Montreal River, Lake Superior, Michigan; assisted by S. W. Hill and W. Schlatter.

Accompanying "Report on the geology and topography of a portion of the Lake Superior land district in the State of Michigan." Part I. Copper lands. Washington, 1850.

367.

1851—Foster (J. W.) and **Whitney** (J. D.). Geological map of the Lake Superior land district in the State of Michigan.

Accompanying "Report on the geology of the Lake Superior land district." Part II. The iron region, together with the general geology. Washington, 1851.

368.

1851—Anonymous (**Foster** (J. W.) and **Whitney** (J. D.)). Section and diagram illustrating the geology of the region between the northern shores of Lakes Superior and Michigan.

Accompanying "Report on the geology of the Lake Superior land district." Part II. The iron region, together with the general geology. Washington, 1851.

No name of authors on the map, but certainly by Foster and Whitney.

369.

1851—Foster (J. W.) and **Whitney** (J. D.). Geological map of the district between Keweenaw Bay and Chocolate River, Lake Superior, Michigan.

Accompanying "Report on the geology of the Lake Superior land district." Part II. The iron region, together with the general geology. Washington, 1851.

370.

1851—Koch (F. C. L.). Geognostische Karte der Mineral-Regionen am Lake Superior, Michigan, North Amer.

Accompanying "Die Mineral-Regionen der obern Halbinsel Michigan's (N. A.) am Lake Superior und die Isle Royal. Göttingen, 1852.

371.

1853—Whitney (J. D.). Geological map of Keweenaw Point, Lake Superior, Michigan. folio. New York, 1853.

Mr. Whitney was assisted by S. W. Hill and W. S. Stephens.

372.

1855—Rivot (L. E.). Carte géologique du Lac Supérieur, État de Michigan, dressée par MM. J. W. Foster et J. D. Whitney.

Accompanying "Voyage au Lac Supérieur." Annales des mines, 5e série, tome VII, p. 173, pl. VI. Paris, 1855.

Also issued separately.

373.

1855—Rivot (L. E.). Cartes de l'île Royale, de la Pointe de Keweenaw et de l'Ontonagon, dressées par MM. Foster et Whitney.

Accompanying "Voyage au Lac Supérieur." Paris, 1855.

374.

1856—Newberry (J. S.). Map of the A. and N. L. R. R., its connections and geology. (Ohio.)

Accompanying "Report on the economical geology of the route of the Ashtabula and New Lisbon Railroad." Cleveland, 1857.

Black etching and geological indications.

375.

1856—Whittlesey (Charles). Outline map of the geological formation of Ohio.

Accompanying "Outline sketch of the geology of Ohio; in outlines of the geology of Ohio," p. 579. Cleveland, 1856.

Black etching, with geological indications. Reprint of the map of 1848.

See **Whittlesey** (Charles), 1848—No. 361.

376.

1856—Whittlesey (Charles). Geological railroad and township map of the State of Ohio. Geological outlines by Charles Whittlesey. Scale, 12 miles to the inch.

Accompanying "Outlines of the geology of Ohio." Cleveland, 1856.

Reprinted in 1873 to compare with a reprint of J. S. Newberry's map of Ohio of 1867, in "Paleontology and the moral sense," by C. Whittlesey.

377.

1865—Sayler (N.). Geological map of Ohio. Scale, 5 miles to the inch. Cincinnati, Ohio, 1865.

Unseen.

378.

1865—Sayler (N.) Geological map of Indiana. Scale, 5 miles to the inch. Cincinnati, Ohio, 1865.

Unseen.

379.

1865—Winchell (Alexander). Map of the Grand Traverse region (Michigan).

Accompanying "A report on the geological and industrial resources of the counties of Antrim, Grand Traverse, Benzie, and Leelanaw in the Lower Peninsula of Michigan." Ann Arbor, 1866.

Black, with dotted lines and geological indications.

380.

1867—Newberry (J. S.). Geological map of Ohio.

Accompanying "Stebbins's atlas of Ohio." (———.)

Unseen.

381.

1869—Brooks (T. B.). Map of Republic Mountain and vicinity, Marquette County, Michigan. Scale, $\frac{1}{4800} = 400$ feet to the inch.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plate VI. New York, 1873.

382.

1869—Credner (H.). Geognostische Uebersichts-Karte der Eisenregionen der oberen Halbinsel von Michigan.

Accompanying "Die vorsilurischen Gebilde der oberen Halbinsel von Michigan in Nord-America." Zeitsch. Deut. Geol. Gesells. Vol. XXI. Taf. VIII. Berlin, 1869.

Black etching, and geological indications.

383.

1869—Whittlesey (Charles). Geological map of Eastern Ohio.

Accompanying "The physical geology of Eastern Ohio." Memoirs Boston Soc. Nat. Hist., Vol. I, p. 598. Boston, 1869.

384.

1870—Newberry (J. S.). Preliminary geological map of Ohio.

Accompanying "Geological survey of Ohio", 1869. Columbus, 1871.

385.

1871—Gilbert (G. K.) Map of Lucas County, colored to show the geological structure.

Accompanying "Geological survey of Ohio", Geology. Vol. I, p. 573. Columbus, 1873.

386.

1872—Brooks (T. B.). Map of the Menominee iron region, upper peninsula, Michigan. Scale, 7,040 feet to one inch or $\frac{3}{4}$ inch to a mile.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plate IV. New York, 1873.

387.

1872—Brooks (T. B.). Map of the Marquette iron region, upper peninsula, Michigan. Scale, 7,040 feet to the inch.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plate III. New York, 1873.

388.

1872—Stevenson (J. J.). Map to show limits of the upper coal measures in Ohio.

Accompanying "The upper coal measures west of the Alleghany Mountains." Annals of Lyceum of Natural History of New York, Vol. X. Plate XII. New York, 1874.

389.

1873—Borden (W. W.). Geological maps of Clark and Floyd Counties, Indiana.

Accompanying "Fifth annual report of the geological surv. of Indiana, made during the year 1873", by E. T. Cox. Indianapolis, 1874.

390.

1873—Collett (John). (Geological) map of Lawrence County, Indiana.

Accompanying "Fifth annual report of the geological surv. of Indiana." Indianapolis, 1874.

Black, with geological indications.

391.

1873—Newberry (J. S.). Geological map of Ohio.

Accompanying "Paleontology and the moral sense," by Charles Whittlesey, p. 9. Cleveland, 1873.

See **Newberry** (J. S.), 1867—No. 384.

392.

1873—Newberry (J. S.). Geological map of Cuyahoga County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 171. Columbus, 1873.

393.

1873—Newberry (J. S.). Geological map of Clarke County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 480. Columbus, 1873.

394.

1873—Newberry (J. S.). Geological map of Summit County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 201. Columbus, 1873.

395.

1873—Orton (Edward). Map showing lines of junction of Cincinnati group and Clinton limestone, or of Lower and Upper Silurian, in Southwestern Ohio. Scale, 5 miles to 1 inch.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 413. Columbus, 1873.

396.

1873—Pumpelly (Raphael). Map to accompany the cross-sections of the Portage Lake district. Scale, 1=12,000.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plates XIV*a* and XIV*b*. New York, 1873.

A. R. Marvine and L. G. Emerson, assistants; in two sheets.

397.

1873—Pumpelly (Raphael). Map to accompany the cross sections of the Eagle River district. Scale, 1 : 4,800 (or) 400 feet to an inch.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plate XX. New York, 1873.

A. R. Marvine and S. B. Ladd, assistants.

405.

1873—Read (M. C.). Geological map of Ashtabula, Lake, Geauga, and Trumbull Counties.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 483. Columbus, 1873.

399.

1873—Rominger (Charles), **Pumpelly** (Raphael) & **Brooks** (T. B.). Map of the Upper Peninsula. Palæzoic rocks, by C. Rominger; copper-bearing rocks, by R. Pumpelly; iron-bearing rocks (Huronian), by T. B. Brooks; Laurentian rocks, by Brooks & Pumpelly. Scale, 13 miles to an inch, $\frac{1}{823680}$.

Accompanying "Geological survey of Michigan." Atlas folio. 1873. Plate I. New York.

400.

1873—Whittlesey (Charles). Geological map of Ohio. Geological outlines, by Charles Whittlesey, 1856.

Accompanying "Paleontology and the moral sense," p. 8. Cleveland, 1873.

See **Whittlesey** (Charles), 1856, a reduction in black, with indications by numbers—No. 376.

401.

1873—Winchell (N. H.). Geological map of Wyandot County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 625. Columbus, 1873.

402.

1873—Winchell (N. H.). Geological map of Marion County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 640. Columbus, 1873.

403.

1873—Winchell (N. H.). Geological map of Seneca County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 611. Columbus, 1873.

404.

1873—Winchell (N. H.). Geological map of Sandusky County.

Accompanying "Geological survey of Ohio." Geology. Vol. I, p. 593. Columbus, 1873.

405.

1874—Newberry (J. S.). Geological map of Erie County, and the Islands.

Accompanying "Geological survey of Ohio." Vol. II, p. 185. Columbus, 1874.

406.

1874—Orton (Edward). Geological map of Highland, Ross, and Pike Counties.

Accompanying "Geological survey of Ohio," Vol. II, p. 611. Columbus, 1874.

407.

1874—Orton (Edward). Geological map of Green County.
Accompanying "Geological survey of Ohio," Vol. II, p. 659. Columbus, 1874.

408.

1874—Winchell (N. H.). Geological map of Defiance County.
Accompanying "Geological survey of Ohio," Vol. II, p. 422. Columbus, 1874.

409.

1874—Winchell (N. H.). Geological map of Ottawa County.
Accompanying "Geological survey of Ohio," Vol. II, p. 227. Columbus, 1874.

410.

1874—Winchell (N. H.). Geological map of Crawford County.
Accompanying "Geological survey of Ohio," Vol. II, p. 237. Columbus, 1874.

411.

1874—Winchell (N. H.). Geological map of Morrow County.
Accompanying "Geological survey of Ohio," Vol. II, p. 253. Columbus, 1874.

412.

1874—Winchell (N. H.). Geological map of Delaware County.
Accompanying "Geological survey of Ohio," Vol. II, p. 272. Columbus, 1874.

413.

1874—Winchell (N. H.). Geological map of Van Wert County.
Accompanying "Geological survey of Ohio," Vol. II, p. 314. Columbus, 1874.

414.

1874—Winchell (N. H.). Geological map of Union County.
Accompanying "Geological survey of Ohio," Vol. II, p. 324. Columbus, 1874.

415.

1874—Winchell (N. H.). Geological map of Paulding County.
Accompanying "Geological survey of Ohio," Vol. II, p. 336. Columbus, 1874.

416.

1874—Winchell (N. H.). Geological map of Harding County.
Accompanying "Geological survey of Ohio," Vol. II, p. 354. Columbus, 1874.

417.

1874—Winchell (N. H.). Geological map of Hancock County.
Accompanying "Geological survey of Ohio," Vol. II, p. 358. Columbus, 1874.

418.

1874—Winchell (N. H.). Geological map of Wood County.
Accompanying "Geological survey of Ohio," Vol. II, p. 368. Columbus, 1874.

419.

1874—Winchell (N. H.). Geological map of Putnam County.
Accompanying "Geological survey of Ohio," Vol. II, p. 387. Columbus, 1874.

420.

1874—Winchell (N. H.). Geological map of Henry County.
Accompanying "Geological survey of Ohio," Vol. II, p. 416. Columbus, 1874.

421.

1875—Sauvage (M. E.). Carte de la région ferrifère de Michigan. Scale, $\frac{1}{1098240}$.
Accompanying "Notice sur les minérais de Fer du Lac Supérieur." Annales des mines, 7e série, tome VIII, Pl. I. Paris, 1875.
In black etching and one color.

422.

1875—Whittlesey (Charles). Physical geology of Lake Superior. Scale, 50 miles to $\frac{7}{8}$ inch.
Accompanying "Physical geology of Lake Superior." Proceedings of American Association for the Advancement of Science, Vol. XXIV, p. 64. Salem, 1876.

423.

1876—Rominger (Charles). Geological map of the lower peninsula. Scale, 13 miles to one inch, or 1:823,680.
Accompanying "Geological survey of Michigan," Vol. III, Part I. New York, 1876.

424.

1876—Spencer (J. W.). Keweenaw Point. Scale, 20 miles to the inch.
Accompanying "On the Nipigon or copper-bearing rocks of Lake Superior," with notes on copper mining in that region. The Canadian Naturalist and Geologist, new series, Vol. VIII, p. 55. Montreal, 1878.
Black etching.

425.

1878—Hill (F. C.) Map of Logan and Champaign Counties.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 491. Columbus, 1878.

426.

1878—Newberry (J. S.). Map of Portage County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 133. Columbus, 1878.

427.

1878—Orton (Edward). Map of Butler County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 399. Columbus, 1878.

428.

1878—Orton (Edward). Map of Preble County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 404. Columbus, 1878.

429.

1878—Orton (Edward). Map of Franklin County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 600. Columbus, 1878.

430.

1878—Orton (Edward). Map of Warren County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 382. Columbus, 1878.

431.

1878—Read (M. C.). Map of Huron County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 299. Columbus, 1878.

432.

1878—Read (M. C.). Map of Richland, Ashland, Wayne, Knox, Holmes, Coshocton, and Licking Counties.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 529. Columbus, 1878.

433.

1878—Stevenson (J. J.). Map to show limits of the Upper Coal Measures in Ohio, north from Central Ohio R. R.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 209. Columbus, 1878.
In black, with a dotted line showing the western and northern boundary of the Pittsburgh coal.

434.

1878—Weat (A. W.). Map of Medina County.
Accompanying "Geological survey of Ohio." Geology. Vol. III, p. 363. Columbus, 1878.

435.

1879—Newberry (J. S.), **Andrews** (E. B.), **Orton** (Edward), **Read** (M. C.), **Gilbert** (G. K.), **Winchell** (N. H.), and **Hill** (F. C.). Geological map of the State of Ohio.
Accompanying "Geological survey of Ohio." Atlas folio. New York, 1879.
Six sheets, forming a geological atlas of the State of Ohio. Published by authority of the legislature.

436.

1879—Wright (C. E.). Map of the Menominee iron district and adjacent territory.

Accompanying "Annual report of the commissioner of mineral statistics of the State of Michigan for 1880." Lansing, 1881.

437.

1880—Collet (John). Outline geological map of Indiana.

Accompanying "Second annual report of the department of statistics and geology of Indiana," p. 450. Indianapolis, 1880.

Black etching and geological indications. It is reprinted in the eleventh annual report of the State geologist, p. 12, 1881.

See **Collet** (John) 1881—No. 441.

438.

1880—Collet (John). Map of Putnam County, Indiana.

Accompanying "The geology of Putnam County." Second annual report of the department of statistics and geology of Indiana, p. 397. Indianapolis, 1880.

Black etching and geological indications.

439.

1880—Greene (G. K.). Map of Munroe County.

Accompanying "Geology of Munroe County." Second annual report of the department of statistics and geology of Indiana, p. 427. Indianapolis, 1880.

Black, with geological indications.

440.

1880—Orton (Edward). Map of Eastern Ohio.

Accompanying "Review of stratigraphical geology of Eastern Ohio," in annual report of the Secretary of State, 1879. Columbus, 1880.

Black, with geological indications.

441.

1881—Collet (John). Outline geological map of Indiana.

Accompanying "Eleventh annual report of the State geologist of Indiana," p. 12. Indianapolis, 1881.

See **Collet** (J.), 1880—No. 437.

442.

1881—Collet (John). Map of Shelby County.

Accompanying "Geology of Shelby County accompanying eleventh annual report of State geologist of Indiana," p. 55. Indianapolis, 1882.

Black etching and geological indications.

443.

1881—Brown (R. T.). Map of Fountain County, Indiana.

Accompanying "Fountain County geology, geography, &c.; eleventh annual report of the State geologist of Indiana," p. 89. Indianapolis, 1882.

Black etching and geological indications.

444.

1881—Phinney (A. J.). Map of Delaware County.

Accompanying "Geology of Delaware county; eleventh annual report of the State geologist of Indiana," p. 126. Indianapolis, 1882.

Black etching and geological indications.

445.

1881—Elrod (M. N.). Map of Bartholomew County, Indiana.

Accompanying "Geology of Bartholomew County; eleventh annual report of the State geologist of Indiana," p. 150. Indianapolis, 1882.

Black etching and geological indications.

446.

1881—Rominger (Charles). Geological map of the environs of Marquette, Negaunee, and Ishpeming. Scale, 1½ inch for 1 mile.

Accompanying "Geol. surv. of Michigan, upper peninsula, 1878–1880." Vol. IV. New York, 1881.

447.

1881—Winchell (N. H.). Sketch map of Isle Royale, Lake Superior.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota," tenth annual report, Plate III. St. Paul, 1882.

Black, with geological indications.

XI.—ILLINOIS, IOWA, MINNESOTA, AND WISCONSIN.

448.

1839—Owen (D. D.). Chart of the great Illinois coal field.

Accompanying "Report of a geological exploration of part of Iowa, Wisconsin, and Illinois, made in the autumn of the year 1839." (Washington), 1844.

449.

1839—Owen (D. D.). Geological section from the mouth of Rock River through the blue mounds to the Wisconsin River in connection with a geological chart of part of Iowa, Wisconsin, and Illinois.

Accompanying "Report of geological exploration of parts of Iowa, Wisconsin, and Illinois, made in the autumn of the year 1839." Plate III. (Washington), 1844.

450.

1839—Owen (D. D.). Geological chart of part of Iowa, Wisconsin, and Illinois:

Accompanying "Report of a geological exploration of part of Iowa, Wisconsin, and Illinois, made in the autumn of the year 1839." (Washington), 1844.

An edition of the report was made in 1840, but without the accompanying charts. Washington is not named in the title page as the place of publication; the only inscription is, "Ordered to be printed by the Senate of the United States."

451.

1848—Owen (D. D.). Provisional geological map of part of the Chippewa land district of Wisconsin, with part of Iowa, and of Minnesota Territory, to illustrate the report of a geological reconnaissance made in 1847.

Accompanying "Report of a geological reconnaissance of the Chippewa land district of Wisconsin; and incidentally of a portion of the Kickapoo country, and of a part of Iowa and of the Minnesota Territory." (Washington. 1849).

Neither date nor place of publication is given, but very likely Washington is the place.

452.

1852—Norwood (J. G.). Geological map of parts of Minnesota and Wisconsin, designed to show portions of the rock formations now concealed by drift.

Accompanying "Report of a geological survey of Wisconsin, Iowa, and Minnesota, and incidentally of a portion of Nebraska Territory," by D. D. Owen. 4°. Volume of illustrations. Philadelphia, 1852.

453.

1852—Owen (Richard). Geological map, coast view and section of Pigeon Point, northwest coast of Lake Superior.

Accompanying "Report of a geological survey of Wisconsin, Iowa, and Minnesota, and incidentally of a portion of Nebraska Territory," by D. D. Owen. 4°. Volume of illustrations. Philadelphia, 1852.

454.

1855—Lapham (I. A.). A geological map of Wisconsin. New York, 1855.

One sheet folio.

455.

1857—[Hall (James), **Whitney** (J. D.), and **Worthen** (A. H.)]. Geological map of the eastern half of the State of Iowa; by legislative authority.

Accompanying "Report of the geological survey of the State of Iowa." Vol. I, Part I, p. 146. (Albany, N. Y.), 1858.

456.

1857—Norwood (J. G.). Illinois geological survey. Diagram of the State of Illinois (colored geologically). Drawn by H. A. Uffers.

Accompanying "Abstract of a report on Illinois coals, and a general notice of coal fields." Chicago, 1857.

457.

1859—Whittlesey (Charles). Geological map of the country on the upper waters of the Menominee, Peshattego, and Oconto Rivers. Scale, $\frac{4}{10}$ of an inch to the mile.

Accompanying "Paleontology and the moral sense," by C. Whittlesey. Cleveland, 1873.

458.

1860—Whittlesey (Charles). Geological map of the Penokie Range, Ashland County, Wisconsin. Scale, 6 miles to 1 inch.

Accompanying "Wisconsin geological survey." Vol. III, Appendix A, p. 215. Madison, 1880.

Reissued in black etching, one small sheet octavo, in "Paleontology and the moral sense." Cleveland, 1873.

See **Whittlesey** (Charles), 1873—No. 476.

459.

1862—Whitney (J. D.). Geological map of the lead region in the States of Wisconsin, Illinois, and Iowa.

Accompanying "Report of geological survey of the Upper Mississippi lead region." Extract from "Report of the geological survey of the State of Wisconsin." Vol. I. Albany, 1862.

460.

1864—Engelmann (Henry). Map of Harding County.

Accompanying "Geological survey of Illinois." Vol. I, p. 350. Springfield, 1866.

461.

1866—[Whitney (J. D.)]. Geological map of the northwest corner of Illinois.

Accompanying "Geological survey of Illinois." Vol. I, p. 154. Springfield, 1866. Called in the list of illustrations "Geological map of the Galena lead region." On the map there is no name of author, no date, and no scale.

462.

1866—Whittlesey (Charles). Mouth of Baptism River.

Accompanying "A report of explorations in the mineral regions of Minnesota during the years 1848, 1859, and 1864," p. 26. Cleveland, 1866.

Black etching and letters corresponding to geological indications in the text.

463.

1866—Whittlesey (Charles). Portion of the north shore in towns 51 and 52 north, ranges 12 and 13 west, St. Louis County, Minnesota. Scale, ½ inch to the mile.

Accompanying "A report of explorations in the mineral regions of Minnesota during the years 1848, 1859, and 1864," p. 35. Cleveland, 1866.

Black etching and letters corresponding to geological indications in the text.

464.

1866—Whittlesey (Charles). Mouth of the Ke-shik-on-se-kan or Cedar River, and Beaver Bay.

Accompanying "A report of explorations in the mineral regions of Minnesota during the years 1848, 1859, and 1864," p. 29. Cleveland, 1866.

Black etching and letters corresponding to geological indications in the text.

465.

1867—Freeman (H. C.). Map of La Salle County.

Accompanying "Geological survey of Illinois," Vol. III, p. 257. Springfield, 1868.

466.

1869—Lapham (I. A.). A new geological map of Wisconsin, prepared mostly from original observations. Scale, 15 miles to 1 inch. Milwaukee, 1869.

Folio.

467.

1870—White (C. A.). Geological map model of Iowa.

Accompanying "Report on the geological survey of the State of Iowa," Vol. I, p. 32. Des Moines, 1870.

468.

1870—White (C. A.). Geological map of the State of Iowa.

Accompanying "Report on the geological survey of the State of Iowa," Vol. II. Des Moines, 1870.

469.

1871—Kloos (J. H.). Orientirungs-Karte zu den geologischen Notizen aus Minnesota.

Accompanying "Geologische Notizen aus Minnesota." Zeitsch. Deut. Geol. Gesells., Vol. XXIII, Taf. VIII, p. 472. Berlin, 1871.

Black etching. An English translation and reprint of the map has appeared in the Tenth annual report of the geological survey of Minnesota, for the year 1881.

470.

1871—White (C. A.). Sketch map of the State of Iowa.

Accompanying "American geological surveys." The Geological Magazine, 1st series, Vol. VIII, p. 222. London, 1871.

Black etching.

471.

1872—Winchell (N. H.). Preliminary geological map of Minnesota.

Accompanying "The annual report of the board of regents of the University of Minnesota for 1872." Saint Paul, 1873.

472.

1872—Winchell (N. H.). Preliminary geological map of Minnesota.

Accompanying "The first annual report for the year 1872 of the geological and Natural History Survey of Minnesota, p. 45. Saint Paul, 1873.

473.

1873—Irving (R. D.). Outline geological map of northern Wisconsin. Scale, 15 miles to the inch.

Accompanying "On the age of the copper-bearing rocks of Lake Superior," &c. Amer. Journ. Silliman, 3d series, Vol. VIII, Plate IV, p. 83. New Haven, 1874.

Black etching and geological indications.

474.

1873—Irving (R. D.). Map showing the formations at the junction of Bad River and Tyler's Fork.

Accompanying "Wisconsin geological survey." Vol. III, Part III, Plate XVI, p. 185. Madison, 1880.

Black etching, with geological indications.

475.

1873—Irving (R. D.). Map showing the formations along Black River, Jackson County.

Accompanying "Wisconsin geological survey." Vol. II, Part III, Plate XVII, p. 493. Madison, 1877.

Black etching.

476.

1873—Whittlesey (Charles). Geological map of the Penokie Range, Ashland County, Wisconsin. Scale, 6 miles to 1 inch.

Accompanying "Paleontology and the moral sense." Cleveland, 1873.

See **Whittlesey** (Charles) 1860—No. 458.

477.

1874—Irving (R. D.). Wood and portions of Clark, Jackson, Marathon, and Portage Counties. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. II, Folio, Plate No. XV. Milwaukee, 1877.

478.

1874—Winchell (N. H.). Geological map of the county of Freeborn, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Third Annual Report, p. 148. Saint Paul, 1875.

479.

1874—Winchell (N. H.). Geological map of Mower County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Third Annual Report, p. 166. Saint Paul, 1875.

480.

1875—Harrington (M. W.). Geological map of Olmsted County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fourth Annual Report, p. 75. Saint Paul, 1876.

481.

1875—Harrington (M. W.). Geological map of Dodge County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fourth Annual Report, p. 97. Saint Paul, 1876.

482.

1875—Harrington (M. W.). Geological map of Steele County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fourth Annual Report, p. 107. Saint Paul, 1876.

483.

1875—Winchell (N. H.). Geological map of Fillmore County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fourth Annual Report, p. 13. Saint Paul, 1876.

484.

1875—Worthen (A. H.). Geological map of the State of Illinois. Boston, 1875.

In two large sheets, lithographed at Boston, published by Legislative Authority; there is no scale nor place of publication on it; it was drawn by Billington, W., St. John, O. H., and Worthen, C. K.

485.

1876—Chamberlin (T. C.). Map of quaternary formations of eastern Wisconsin. Scale, 1 inch = 12 miles.

Accompanying "Wisconsin geological survey." Atlas, Vol. II. Folio. Plate II. Milwaukee, 1877.

486.

1876—Chamberlin (T. C.). Door and parts of Kewaunee, Brown, Outagamie, Shawano, and Oconto Counties. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. II. Folio. Plate XII. Milwaukee, 1877.

487.

1876—Chamberlin (T. C.). Kenosha, Racine, Milwaukee, Waukesha, Walworth, Jefferson, and parts of Rock, Dodge, Washington, and Ozaukee Counties. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. II. Folio. Plate X. Milwaukee, 1877.

488.

1876—Chamberlin (T. C.). Fond du Lac, Sheboygan, Manitowoc, Calumet, Winnebago, and parts of Dodge, Washington, Ozaukee, Kewaunee, Brown, Outagamie, and Waupaca Counties. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. II. Folio. Plate XI. Milwaukee, 1877.

489.

1876—Chamberlin (T. C.). Map of subsoils of Eastern Wisconsin. Scale, 1 inch = 12 miles.

Accompanying "Wisconsin geological survey." Atlas of Vol. II. Folio. Plate III. Milwaukee, 1877.

490.

1876—Chamberlin (T. C.), **Irving** (R. D.), **Strong** (M.). Iowa, Lafayette, Green, range VI in Dane, and range III in Sauk, by M. Strong. Dane and ranges IV, V, VI, in Sauk, by R. D. Irving. Rock, by T. C. Chamberlin. Scale 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol II. Folio. Plate. XIII. Milwaukee, 1877.

491.

1876—Chamberlin (T. C.), and **Irving** (R. D.). Juneau, Adams, Waushara, Marquette, Sauk, Columbia, and Green Lake, north of Fox River, by R. D. Irving. Green Lake and Dodge by T. C. Chamberlin. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. II, folio. Plate XIV. Milwaukee, 1877.

492.

1876—Irving (R. D.). Details of the structure of the Huronian series in the vicinity of Penokee Gap, T. 44, R. 3 W. Ashland County. Scale, $\frac{1}{3620}$.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXIII. Milwaukee, 1879.

493.

1876—Irving (R. D.), and **Strong** (M.). Trempealeau, La Crosse, Monroe, Vernon, Sauk, Richland, and Crawford Counties, by M. Strong. Juneau and Jackson Counties, by R. D. Irving. Scale, 3 miles to 1 inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XVII. Milwaukee, 1879.

494.

1876—Irving (R. D.). Geological map of the Four Lake country of Dane County.

Accompanying "Wisconsin geological survey." Vol. II. Part III. Plate XXVI A, p. 613. Madison, 1877.

Black etching.

495.

1876—Irving (R. D.). Map of Devil's Lake gorge.

Accompanying "Wisconsin geological survey." Vol. II. Part III. Plate XIX, p. 507. Madison, 1877.

Black etching.

496.

1876—Irving (R. D.). Map showing the succession of layers along the gorge of the Montreal River. T. 47, R. J. E. Scale, 10 inches to the mile.

Accompanying "Wisconsin geological survey." Vol. III. Part III. Plate XIX, p. 192. Madison, 1880.

Black etching, with geological indications and numbers corresponding to text.

497.

1876—Irving (R. D.). Map showing the succession of layers along the Montreal River. T. 47, R. J. E. Scale, $2\frac{1}{4}$ inches = 1 mile.

Accompanying "Wisconsin geological survey." Vol. III. Part III. Plate XVIII, p. 190. Madison, 1880.

Black etching, with geological indications.

498.

1876—Strong (M.). Grant and parts of Lafayette, Iowa, Richland, and Crawford Counties.

Accompanying "Wisconsin geological survey." Atlas, Vol. II, folio. Plate XVI. Milwaukee, 1877.

499.

1876—Strong (M.). Geology and topography of the lead region.

Accompanying "Wisconsin geological survey." Atlas, Vol. II, folio. Plates III, IV, V, VI, VII. Milwaukee, 1877.

In five sheets.

500.

1876—Strong (M.), and **Wooster** (L. C.). Polk and Barron Counties, and parts of Dunn, Saint Croix, Chippewa, and Burnett Counties, towns 32–38, inclusive, by M. Strong. Town 31, by L. C. Wooster.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XIX. Milwaukee, 1879.

501.

1876—Winchell (N. H.). Geological map of Houston County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fifth Annual Report, p. 9. Saint Paul, 1877.

502.

1876—Winchell (N. H.). Geological map of Hennepin County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fifth Annual Report, p. 131. Saint Paul, 1877.

503.

1876—Winchell (N. H.). Map of the vicinity of the Fall of Saint Antony, intended to illustrate the surface geology (Minnesota). Scale, 1 inch to 1 mile.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Fifth Annual Report, p. 156. Saint Paul, 1877.

504.

1873–1877—Irving (R. D.). Map of part of T. 44, R. 3 W., designed to show the relations of the Laurentian, Huronian, and Keweenaw systems.

Accompanying "Wisconsin geological survey." Vol. III, Part III. Plate XV, p. 145. Madison, 1880.

505.

1877—Irving (R. D.). Map showing the relative positions of the isolated Archæan areas of Wisconsin. Scale, 1 inch to 24 miles.

Accompanying "Wisconsin geological survey." Vol. II, Part III. Plate XVIII, p. 501. Madison, 1877.

Black etching.

506.

1877—Irving (R. D.). Map of part of Wisconsin, designed to show the main facts with regard to the distribution of the glacial drift and other quaternary deposits.

Accompanying "Wisconsin geological survey." Vol. II, Part III. Plate XXV A, p. 608. Madison, 1877.

507.

1877—Irving (R. D.). Outline of an area of Trenton limestone, near Columbus. Scale, 4 miles to the inch.

Accompanying "Wisconsin geological survey." Vol. II, Part III. p. 614. Madison, 1877.

Black etching.

508.

1877—Irving (R. D.). Details of the structure of the Huronian or iron-bearing series of Ashland and Lincoln Counties. Scale, 3.6 inches = 1 mile.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plates XXIV, XXV, XXVI. Milwaukee, 1879.

In three sheets.

509.

1877—Sperry (L. B.). Geological map of Rice County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Sixth Annual Report, p. 114. Minneapolis, 1878.

510.

1877—Sweet (E. T.). Outline geological map of a portion of Northern Wisconsin.

Accompanying "Wisconsin geological survey." Vol. III, Part V. Plate XXXIV, p. 330. Madison, 1880.

Black etching.

511.

1877—Sweet (E. T.). Outline structural map of the Lower Black River Falls. Scale 400 feet to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part V, p. 343. Madison, 1880.

Black etching and numbers corresponding to geological indications in the text.

512.

1877—Winchell (N. H.). Geological map of Ramsey County, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Sixth Annual Report, p. 66. Minneapolis, 1878.

513.

1877—Winchell (N. H.). Geological map of Rock and Pipestone Counties, Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Sixth Annual Report, p. 92. Minneapolis, 1878.

Black, with geological inscriptions.

514.

1877—Wright (C. E.). Penokie iron range west of Gap.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXVII. Milwaukee, 1879.

515.

1878—Irving (R. D.). Map showing the succession of layers along the Potato River. Scale, 6 inches = 1 mile.

Accompanying "Wisconsin geological survey." Vol. III, Part III, Plate XVII, p. 188. Madison, 1880.

Black etching, with geological indications.

516.

1878—Irving (R. D.). Geological map and sections illustrating the structure of the regions drained by the Bad and Montreal Rivers. Scale, 2 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXII. Milwaukee, 1879.

517.

1878—Warren (G. K.). (No title.)

Accompanying "Valley of the Minnesota River and of the Mississippi River, to the junction of the Ohio; its origin considered." Amer. Journ. Silliman. 3rd series, Vol. XVI, Diagram E. New Haven, 1878.

Black etching, with geological indications in the text.

518.

1879—Brooks (T. B.). Sturgeon River.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate I, p. 452. Madison, 1880.

Black etching, and geological indications.

519.

1879—Brooks (T. B.). Big Quinnesec Falls. Scale, $\frac{1}{4}$ mile to 1 inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate III, p. 472. Madison, 1880.

Black etching and geological indications.

520.

1879—Brooks (T. B.). Little Quinnesec Falls and Sand Portage Rapids. Scale, $\frac{1}{4}$ of a mile to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate II, p. 468. Madison, 1880.

Black etching and geological indications.

521.

1879—Brooks (T. B.). Twin and Four Ft. Falls, Menominee River. Scale, ¼ of a mile to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate IV, p. 475. Madison, 1880.

Black etching and geological indications.

522.

1879—Brooks (T. B.). Pine and Poplar Rivers. Scale, ½ mile to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate V, p. 477. Madison, 1880.

Black etching and geological indications.

523.

1879—Brooks (T. B.). Commonwealth and Eagle iron belts. Scale, ½ mile to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate VI, p. 481. Madison, 1880.

Black etching and geological indications.

524.

1879—Brooks (T. B.). Hypothetical sketch of the rock structure near Lake Eliza.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate VIII, p. 484. Madison, 1880.

Black etching and geological indications.

525.

1879—Brooks. (T. B.). Lower Brulé, Michigamme, and Paint Rivers. Scale, ½ mile to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part VII. Plate IX, p. 492. Madison, 1880.

Black etching and geological indications.

526.

1879—Brooks (T. B.). Geological sketch of the Menominee iron region, showing approximatively the distribution and folds, illustrating report, Vol. III, Part VII. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXIX. Milwaukee, 1879.

527.

1879—Brooks (T. B.). and **Wright** (C. E.) Map of the Menominee iron region, including Pine River district, Oconto County, and in part the Sturgeon River district, Michigan. Scale, ¾ inch to 1 mile.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXVIII. Milwaukee, 1879.

528.

1879—Irving (R. D.). Map of Wisconsin and adjoining portions of Michigan, Illinois, Iowa, and Minnesota, showing geological structure, positions of the principal mineral districts, &c. Scale 20 miles to 1 inch.

Accompanying "The mineral resources of Wisconsin." Trans. Amer. Inst. Mining Engrs., Vol. VIII, p. 506. Easton, Pa., 1880.

A well executed and very clear geological map.

529.

1879—Strong (M.). Map of Northwestern Wisconsin, designed to show the main features of the surface geology.

Accompanying "Wisconsin geological survey." Vol. III, Part VI. Plate XXXVII, p. 383. Madison, 1880.

530.

1879—Strong (M.) and **Sweet** (E. T.). Douglas County, and parts of Bayfield, Burnett, and Ashland Counties; north of township 43, by E. T. Sweet, south of township 44, by M. Strong.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XX. Milwaukee, 1879.

531.

1879—Strong (M.) **Sweet** (E. T.) and **Irving** (R. D.). Parts of Ashland, Bayfield, and Lincoln Counties. Ashland County, the Apostle island, Lincoln County, and townships 44–51, ranges 4 and 5 west, Bayfield County, by R. D. Irving; townships 43–46, ranges 6 and 7 west, by M. Strong; township 47–51, ranges 6 and 7 west, by E. T. Sweet. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXI. Milwaukee, 1879.

532.

1879—Wooster (L. C.) and **Strong** (M.). Saint Croix, Chippewa, and Eau Claire Counties, T. XXV, Pepin County, and T. 27, ranges 15 to 18 W., T. 26, range 15 and 16 W., and parts of T. 25, range 15 W., and T. 26, range 17 W., Pierce County, by L. C. Wooster; Trempealeau, Buffalo, and the remainder of Pierce and Pepin, by M. Strong. Scale, 3 miles to the inch.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XVIII. Milwaukee, 1879.

533.

1879—Wright (C. E.) Map of the Menominee iron district and adjacent territory.

Accompanying "Wisconsin geological survey." Atlas, Vol. III, folio. Plate XXX. Milwaukee, 1879.

534.

1880—Irving (R. D.). Quaternary map of the eastern Lake Superior district.

Accompanying "Wisconsin geological survey." Vol. III, Part III. Plate XX, p. 211. Madison, 1880.

535.

1880—Irving (R. D.). Outline geological map of northern Wisconsin. Scale, 15 miles to the inch.

Accompanying "Wisconsin geological survey." Vol. III, Part I. Plate IX, p. 3. Madison, 1880.

536.

1880—Wright (E. C.). No title. Section 16, township 44 N., range 5 W., Wisconsin.

Accompanying "Wisconsin geological survey." Vol. III, Part IV. Plate XXVII, p. 286. Madison, 1880.

Colored and with geological indications.

537.

1881—Kloos (J. H.). Orientirungs-Karte zu den geologischen Notizen aus Minnesota.

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Tenth Annual Report. Saint Paul, 1881.

See **Kloos** (J. H.), 1871—No. 469.

538.

1881—Winchell (N. H.) Sketch map of the canoe trail from Ogishke Muncie Lake to the mouth of Poplar River (Lake Superior).

Accompanying "Geological and Nat. Hist. Surv. of Minnesota." Tenth Annual Report, Plate I. St. Paul, 1882.

Black with geological indications.

539.

1881—Winchell (N. H.). Sketch map of the iron trail for canoes from Grand Marais to Iron Lake (Lake Superior).

Accompanying "Geological and Natural Hist. Surv. of Minnesota." Tenth Annual Report, Plate II. Saint Paul, 1882.

Black with geological indications.

N. B.—Nelson Sayler, in 1865, advertised the publication of a "Geological map of Illinois," but it was never published.

XII.—SOUTHERN STATES, COMPRISING VIRGINIA, WEST VIRGINIA KENTUCKY, TENNESSEE, MISSISSIPPI, ALABAMA, FLORIDA, GEORGIA, SOUTH CAROLINA, AND NORTH CAROLINA.

540.

1827—Mitchell (Dr.). A geological map of the eastern half of North Carolina.

Never published, and has disappeared. Not seen.

541.

1833—Peck (J.). Geological map of the mining districts in the State of Georgia, western parts of North Carolina, and in East Tennessee. Scale, 10 miles to $\frac{5}{8}$ of an inch.

Accompanying "Geological and mineralogical account of the mining districts in the State of Georgia," etc. Amer. Jour. Silliman, Vol. XXIII. New Haven, 1833.

This map has merely geological indications on it.

542.

1839—Troost (Gerard). Geological map of the State of Tennessee.

Accompanying "Fifth geological report to the general assembly of Tennessee," p. 8 Nashville, 1840.

543.

1839—Troost (Gerard). Geological map of Cocke County, East Tennessee.

Accompanying "Fifth geological report to the general assembly of Tennessee," p. 22. Nashville, 1840.

Black with mineralogical indications.

544.

1842—Mitchell (Dr.). Geological map of North Carolina.

Accompanying "A geological text book." (Raleigh) 1842.

A very small map. Not seen.

545.

1843—Troost (Gerard). Geological map of Davidson, Williamson, and Maury Counties (Tennessee).

Accompanying "Seventh geological report to the general assembly of Tennessee." Nashville, 1844.

A very rare map.

546.

1845—Tuomey (Michael). Geological map of South Carolina.

Accompanying "Report on the geology of South Carolina." 4°. Columbia, 1848.

547.

1848—Tuomey (Michael). Geological map of Alabama.

Accompanying "First biennial report of the geology of Alabama." Tuskaloosa, 1850.

It is the rarest geological map of the New World, only 5 or 6 copies are known to exist. I possess one given by the author to D'Archiac.

548.

1849—White (G.). Bonner's map of the State of Georgia, with the addition of its geological features. Scale, 20 miles to an inch.

Accompanying "Statistics of the State of Georgia." Savannah, 1849.

549.

1851—Safford (J. M.) The Silurian Basin of Middle Tennessee.

Accompanying "The Silurian Basin of Middle Tennessee, with notices of the strata surrounding it." Amer. Journ. Silliman, Vol. XII, Nov. 1851, p. 352. New Haven, 1851.

Black with numbers and signs.

550.

1851—Tuomey (Michael). Plan, or horizontal section showing the geological structure of Anthony's Creek Reservoir.

Accompanying "Report addressed to Hon. G. Y. Mason, president of the James River and Kanawha Canal Co.", November 6, 1851. (Richmond, Virginia, 1852).

Not seen.

551.

1854—Lieber (O. M.). Geological map of Mississippi.

Accompanying "A sketch of the geology of the State of Mississippi." The Mining Magazine, edited by W. J. Tenney. Vol. III, p. 42. New York, July, 1854.

Black etching and geological indications.

552.

1855—Tuomey (Michael). Geological map of the State of Alabama.

Accompanying "Second biennial report of the geology of Alabama," edited by J. W. Mallet. Montgomery, 1858.

This second edition of the geological map of Tuomey is also rare, and in some respects inferior to the first edition. The scale is smaller. Tuomey died in March, 1857, and the map was printed in New York by J. H. Colton without his supervision. However, it contains some corrections brought about by Tuomey's survey and explorations of the years 1854 and 1855. It is the first geological map colored by chromo-lithography in America.

553.

1856—Emmons (Ebenetzer). Map of the Deep River coal field, North Carolina.

Accompanying "Geological report of the midland counties of North Carolina." Raleigh, 1856.

554.

1856—Lieber (O. M.). Geognostic map of York district. Scale, 5 miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate IX. Columbia, 1856.

A second edition was published in 1858—No. 568.

555.

1856—Lieber (O. M.). Geognostic map of Chester district. Scale, 5 miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate VIII. Columbia, 1856.

A second edition was published in 1858—No. 569.

556.

1856—Lieber (O. M.). Geognostic map of Lancaster district.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate VII. Columbia, 1856.

A second edition was published in 1858—No. 570.

557.

1856—Lieber (O. M.). Geognostic map of Chesterfield district. Scale, 5 miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate VI. Columbia, 1856.

A second edition was published in 1858—No. 571.

These maps and reports are quite scarce, most of them having been burned in the fire that destroyed Columbia in 1865.

558.

1856—Safford (J. M.). Geological map of the State of Tennessee.

Accompanying "A geological reconnoissance of the State of Tennessee," being the author's first biennial report. Nashville, 1856.

559.

1857—Harper (L.). Geological chart of Mississippi.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi." Jackson, 1857.

560.

1857—Harper (L.). Mississippi bottom in the State of Mississippi, or the alluvial plains of the Mississippi River in Mississippi.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi," p. 259. Jackson, 1857.

561.

1857—Harper (L.). Special map of Tishamingo County.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi." Table IV. Jackson, 1857.

562.

1857—Harper (L.). The prairies above Tibby Creek.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi." Table V. Jackson, 1857.

563.

1857—Harper (L.). Special map of Pontotoc County.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi." Table VI. Jackson, 1857.

564.

1857—Harper (L.). Special map of Tippah County.

Accompanying "Preliminary report on the geology and agriculture of the State of Mississippi." Table VII. Jackson, 1857.

565.

1857—Lieber (O. M.).. Geognostic map of Union district. Scale, 5 miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856-1860." Second annual report. Plate XIII. Columbia, 1858.

566.

1857—Lieber (O. M.). Geognostic map of the itacolumite, iron, and limestone region of Union, Spartanburgh, and York district, South Carolina. Scale, 1 inch to 2 miles and 1 inch to 1 mile.

Accompanying "Reports on the geognostic survey of South Carolina, 1856-1860." Second annual report. Plate XII. Columbia, 1858.

Two maps on the same plate, with different scales.

567.

1857—Lieber (O. M.). Geognostic map of Spartanburgh district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856-1860." Second annual report. Plate XIV. Columbia, 1858.

568.

1858—Lieber (O. M.). Geognostic map of York district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856-1860." First annual report. Plate IX. Columbia, 1858.

Reprint of the map of 1856, which see.—No. 554.

569.

1858—Lieber (O. M.). Geognostic map of Chester district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856-1860." First annual report. Plate VIII. Columbia, 1858.

Reprint of the map of 1856, which see.—No. 555.

570.

1858—Lieber (O. M.). Geognostic map of Lancaster district.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate VII. Columbia, 1858.

Reprint of the map of 1856, which see—No. 556.

571.

1858—Lieber (O. M.). Geognostic map of Chesterfield district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." First annual report. Plate VI. Columbia, 1858.

Reprint of the map of 1856, which see—No. 557.

572.

1859—Currey (R. O.). A geological map of the copper region embraced in the counties of Floyd, Carroll, and Grayson, Va., and Ashe and Alleghany, N. C. Scale, 6¼ miles to 1 inch.

Accompanying "The copper and iron region of the Floyd-Carroll-Grayson Plateau of the Blue Ridge in Virginia." "The Virginias," Vol. I, p. 62. 4to. Staunton, Virginia, 1880.

Black etching, with geological inscriptions.

573.

1859—Lieber (O. M.). Geognostic map of Greenville district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XVI. Columbia, 1859.

574.

1859—Lieber (O. M.). Geognostic map of Pickens district. Scale, 5 miles to 1 inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XVII. Columbia, 1859.

575.

1860—Hilgard (E. W.). Geological map of Mississippi.

Accompanying "Report on the geology and agriculture of the State of Mississippi." Jackson, Mississippi, 1860.

576.

1860—Lieber (O. M.). Portion of Abbeville district around Calhoun's Mill. Scale, two and one-half miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XX. Columbia, 1860.

577.

1860—Lieber (O. M.). Industrial map of South Carolina. Scale, 1:1,800,000.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XXI. Columbia, 1860.

578.

1860—Lieber (O. M.). Geognostic map of Anderson district. Scale, five miles to an inch.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XIX. Columbia, 1860.

579.

1860—Lieber (O. M.), Geognostic map of Abbeville district.

Accompanying "Reports on the geognostic survey of South Carolina, 1856–1860." Plate XX. Columbia, 1860.

580.

1864—Safford (J. M.). No title.

Accompanying "On the cretaceous and superior formations of West Tennessee." Amer. Journ, Silliman. 2d series, Vol. XXXVII, p. 362. New Haven, 1864.

Black etching, with numbers corresponding to geological indications in the text.

581.

1865—Sayler (Nelson). Geological map of Kentucky. Geological formations delineated by Nelson Sayler. Scale, 5 miles to 1 inch. Cincinnati, 1865.

582.

1865—Sayler (Nelson). Geological map of Tennessee. Scale, 5 miles to 1 inch. Cincinnati, 1865.

Not seen.

583.

1867—Lyman (B. S.). A geological and topographical map of a rough survey of the Staley's Creek and Nick's Creek iron region near Marion, Smyth County, Virginia.

Accompanying "The Staley's Creek and Nick's Creek iron ore region." Trans. Amer. Phil. Soc. New series. 4°. Vol. XV, Article III, Plate II. Philadelphia, 1881.

Black etching, with geological indications.

584.

1869—Safford (J. M.). Geological map of Tennessee. Scale, 12 miles to an inch.

Accompanying "Geology of Tennessee." Nashville, 1869.

585.

1870—Lesley (J. P.). No title. Scale, 5 miles to one inch.

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties, in Virginia." Proc. Amer. Phil. Soc., Vol. XII. Philadelphia, 1873.

586.

1871—Lesley (J. P.). Coal beds on Russell's Creek. Scale, 480 yards to 1 inch. Contour lines, 10 feet vertical apart. Foot survey by J. P. Lesley, October, 1870, Russell County, Virginia.

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties, in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 495. Philadelphia, 1873.

Black, with lithological and mineralogical indications.

587.

1871—Lesley (J. P.). Sketch map of Clinch River where it strikes the coal measures and rebounds at Lick Run.

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties, in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 497. Philadelphia, 1873.

Small black sketch, with mineralogical indications.

588.

1871—Lesley (J. P.). No title. (Sketch map part of Clinch River near Middle Creek.)

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties, in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 498. Philadelphia, 1873.

Small black sketch, with mineralogical indications.

589.

1871—Lesley (J. P.). No title. (Sketch map part of Clinch River above Middle Creek.)

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties, in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 502. Philadelphia, 1873.

Small black sketch, with mineralogical indications.

590.

1871—Lesley (J. P.). Local map of Abb's Valley coal, properly blue stone coal. Scale, 500 feet to 1 inch.

Accompanying "The geological structure of Tazewell, Russell, and Wise Counties in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 505. Philadelphia, 1873.

Black, with lithological inscriptions.

591.

1873—Lesley (Joseph, jr.). Map of Eastern Kentucky, showing the western outcrop of its coal-field, as determined by surveys in 1858 and 1859. Scale, 12 miles to $\frac{11}{16}$ of an inch.

Accompanying "The outcrop belt of the Eastern Kentucky coal-field." Proc. Amer. Phil. Soc., Vol. XIII, p. 270. Philadelphia, 1873.

Black etching.

See **Lesley** (Joseph, jr.)—No. 598.

592.

1874—Rogers (W. B.) and **Hotchkiss** (Jed.). Map of Virginia, by J. Hotchkiss. The geology by Prof. W. B. Rogers, chiefly from the State survey 1835–'41, "With later observations in some parts."

Accompanying "Virginia: a geographical and political summary," &c., p. 46. Richmond, 1876.

This map, with some additions, also appeared with the title: "**Hotchkiss's** geological map of Virginia and West Virginia. The geology by Prof. W. B. **Rogers**, chiefly from the Virginia State survey 1835–1841, with later observations in some parts." Scale, 1:1,520,640, or 24 miles to one inch. Accompanying "Preliminary report concerning the resources of the country adjacent to the line of the proposed Richmond and Southwestern Railway," by N. S. **Shaler**, Cambridge, 1880, and also in the "Virginias," Vol. I, No. 6, p. 92. Staunton, Va., 1880—No. 611.

593.

1875—Kerr (W. C.). Geological map of North Carolina.

Accompanying "Report of the geological survey of North Carolina," Vol. I. Raleigh, 1875.

594.

1875—Shaler (N. S.). Kentucky geological survey; preliminary map.

Accompanying "Report of progress," Vol. II. New series. Frankfort, 1877. Black etching.

See **Shaler** (N. S.)—Nos. 596, 599, 600, 613.

595.

1875—Stevenson (J. J.). Sketch map to illustrate notes on the geology of West Virginia.

Accompanying "Notes on the geology of West Virginia." Proc. Amer. Phil. Soc., Vol. XIV, p. 370. Philadelphia, 1876.

Black; the double dotted line represents the eastern outcrop of the Pittsburgh coal.

596.

1876—Shaler (N. S.) Kentucky geological survey. Preliminary map.

Accompanying "A general account of the commonwealth of Kentucky." Frankfort, 1876.

This pamphlet was compiled for distribution at the Centennial Exposition; a thousand copies of the map colored were issued, and later some additional copies with the map in black etching.

See **Shaler** (N. S.)—Nos. 594, 599, 600, 613.

597.

1876—Smith (E. A.). Map showing the Southwest termination of the Coosa coal field.

Accompanying "Geological survey of Alabama." Report of progress for 1876. Montgomery, Ala., 1876.

Black etching.

598.

1877—Lesley (Joseph, jr.). Map of Eastern Kentucky, showing the western outcrop of its coal field as determined by surveys of 1858 and 1859.

Accompanying "Geological survey of Kentucky," Vol. III. New series. Frankfort, 1877.

See **Lesley** (Joseph, jr.)—No. 591.

599.

1877—Shaler (N. S.). Kentucky geological survey. Preliminary map.

Accompanying "The report of the Kentucky commissioner of agriculture for 1877." Frankfort, 1877.

Black etching. This is the map already mentioned published in various reports in colors or black etching.

See **Shaler** (N. S.) 1875,' 76-1880—Nos. 594, 596, 600, 613.

600.

1877—Shaler (N. S.). Kentucky geological survey, preliminary map compiled from various surveys.

Accompanying "Geological survey of Kentucky," Vol. III. New series. Frankfort, 1877.

It appeared also in "Preliminary report concerning the resources of the country adjacent to the line of the proposed Richmond and Southwestern Railway," by N. S. **Shaler**. Cambridge, 1880.

See **Shaler** (N. S.)—Nos. 594, 596, 599, 613.

601.

1878—Heinrich (O. J.). Map of the eastern part of the State of Virginia. Scale, 20 miles to 1 inch.

Accompanying "The mesozoic formation in Virginia." Trans. Amer. Inst. Mining Engrs., Vol. VI. Plate V. Easton, Pa., 1879.

Black etching and signs. The map and memoir have been reprinted in "The Virginias" of Major Jed. **Hotchkiss**, Vol. I., No. 8, pages 124 and 125. Staunton, Va., August, 1880.

602.

1878—Smith (E. A.). Geological map of Alabama, prepared for Berney's Hand-book of Alabama.

Accompanying "Hand-book of Alabama." A complete index to the State, with a geological map and an appendix of useful tables, by Saffold Berney. Mobile, 1878.

603.

1878—Smith (E. A.). Geological map of Marion County (Alabama). Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Alabama." Report of progress for 1877 and 1878, p. 120. Montgomery, 1879.

604.

1878—Smith (E. A.). Geological map of Walker County (Alabama). Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Alabama." Report of progress for 1877 and 1878, p. 82. Montgomery, 1879.

605.

1878—Smith (E. A.). Geological map of Winston County (Alabama). Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Alabama." Report of progress for 1877 and 1878, p. 97. Montgomery, 1879.

606.

1878—Smith (A. E.). Geological map of Fayette County (Alabama). Scale, 4 miles to 1 inch.

Accompanying "Geological survey of Alabama." Report of progress for 1877 and 1878, p. 105. Montgomery, 1879.

607.

1879—Smith (E. A.). Map of the Black Warrior River from Tuscaloosa to the fork of Sipsey and Mulberry. Scale, 2 miles to 1 inch.

Accompanying "Geological survey of Alabama." Report of progress for 1879 and 1880. Montgomery, 1881.

608.

1880—Hotchkiss (Jed.). Map of the great Ohio Coal Basin, compiled from State geological surveys.

Accompanying "The coal fields of West Virginia and Virginia in the Great Ohio or Trans-Apalachian Coal Basin." "The Virginias." Vol. I, 4°, p. 188. Staunton, Virginia, 1880.

609.

1880—Stevenson (J. J.). Geological map of parts of Lee, Wise, Scott, and Washington Counties, Virginia. Scale, 5 miles to 1 inch.

Accompanying "A geological reconnaissance of parts of Lee, Wise, &c. Counties." Proc. Amer. Phil. Soc., Vol. XIX. No. 108, p. 219. Philadelphia, 1881.

The map and memoir have been reproduced in "The Virginias," Vol. II, p. 22. February, 1881. 4°. Staunton, Virginia, 1881.

610.

1880—Heinrich (O. J.). Map of the eastern part of the State of Virginia. Scale, 20 miles to 1 inch.

Accompanying "The Virginias," Vol. I, No. 8, pp. 124 and 125. Staunton, 1880.

See **Heinrich** (O. J.), 1878—No. 601.

611.

1880—Rogers (W. B.). Hotchkiss' geological map of Virginia and West Virginia. The geology by Prof. W. B. Rogers, chiefly from the Virginia State survey 1835–1841, with later observations in some parts. Scale, 1:1,520,640, or 24 miles to 1 inch.

Accompanying "Preliminary report concerning the resources of the country adjacent to the line of the proposed Richmond and Southwestern Railway," by N. S. Shaler. Cambridge, 1880.

See **Rogers** (W. B.), 1874—Nos. 592, 612.

612.

1880—Rogers (W. B.). (The same map as above.)

Accompanying "The Virginias," Vol. I, No. 6, p. 92. Staunton, 1880.

See **Rogers** (W. B.), 1874—Nos. 592, 611.

613.

1881—Shaler (N. S.). Kentucky geological survey, preliminary map compiled from various surveys.

Accompanying "Preliminary report concerning the resources of the country adjacent to the line of the proposed Richmond and Southwestern Railway," by N. S. Shaler. Cambridge, 1880.

See **Shaler** (N. S.), 1877—Nos. 594, 596, 599, 600.

614.

1881—Hotchkiss (Jed.). Centennial geological map of the Virginias. The geology that of the Virginia State survey, by Prof. W. B. Rogers, 1835–41, corrected by later observers. Scale, 3½ miles to 1 inch. Staunton, Va., 1881.

A very large wall map in 14 sheets.

615.

1881—Smith (E. A.). Geological map of Florida.

Accompanying "On the geology of Florida." Amer. Journ. Silliman, 3d series, Vol. XXI, p. 305. New Haven, 1881.

In black etching, with geological indications.

616.

1881—Stevenson (J. J.). Geological map of parts of Lee, Wise, Scott, and Washington Counties, Virginia. Scale, 5 miles to the inch.

Accompanying "A geological reconnaissance of parts of Lee, Wise, &c." The Virginias. Vol. II, p. 22, February number, 4°. Staunton, 1881.

See **Stevenson** (J. J.), 1880—No. 609.

XIII.—NORTHWESTERN STATES AND TERRITORIES, COMPRISING NEBRASKA, DAKOTA, WYOMING, MONTANA, NATIONAL PARK, AND IDAHO.

617.

1852—Evans (John). Map showing the positions of the Bad Lands or Mauvaises Terres of Nebraska.

Accompanying "The ancient fauna of Nebraska," by Joseph Leidy, in Smithsonian contribution to knowledge, Vol. VI. 4°. Washington, 1852.

Black, with geological indications. It also appeared in illustrations of the geological survey of Wisconsin, Iowa, and Minnesota, by D. D. Owen. 4to. Philadelphia, 1852.

See **Evans** (John), 1852—No. 618.

618.

1852—Evans (John). Map showing the position of the Bad Lands or Mauvaises Terres of Nebraska.

Accompanying "Report of a geological survey of Wisconsin, Iowa, and Minnesota, and incidentally of a portion of Nebraska Territory," by D. D. Owen, Vol. of illustrations. 4°. Philadelphia, 1852.

Black, with geological indications; the same as the map cited above.

See **Evans** (John), 1852—No. 617.

619.

1857—Hayden (F. V.). Geology. Map of Nebraska.

Accompanying "Notes explanatory of a map and section illustrating the geological structure of the country bordering on the Missouri River, from the mouth of the Platte River to Fort Benton." Proc. Acad. Nat. Sciences, May, 1857. Philadelphia, 1857.

620.

1858—Hayden (F. V.). Geology. Map of Nebraska.

Accompanying "Explanations of a second edition of a geological map of Nebraska and Kansas," based upon information obtained in an expedition to the Black Hills, under the command of G. K. Warren. Proc. Acad. Nat. Sciences, June, 1858. Philadelphia, 1858.

Important geological map for the Upper Missouri region. Reprinted in black etching, in Petermann's Geographische Mittheilungen. 4°. Vol. VI, p. 53. Gotha. 1860.

621.

1859—Hayden (F. V.). No title.

Accompanying "Geological sketch of the estuary and fresh water deposit of the bad lands of the Judith River." Trans. Amer. Phil. Soc. 4°. Vol. XI. New series, article XII. Plate VIII, p. 154. Philadelphia, 1860.

Outline map, with geological indications, of the Upper Missouri River region around Fort Benton.

622.

1860—Hayden (F. V.). Geologische Skizze der Black Hills, nach Hayden's Karte von A. Peterman. Scale, 1:6,500,000.

Accompanying "Petermann's Geographische Mittheilungen." 4°. Vol. VI, p. 53. Gotha, 1860.

Black etching.

See **Hayden** (F. V.), 1858—No. 620.

623.

1862—Hayden (F. V.). Outline reduction of the maps of Kansas, Nebraska, and Dakota. Geology.

Accompanying "On the geology and natural history of the Upper Missouri." Being the substance of a report made to Lieut. G. K. Warren. Trans. Amer. Phil. Soc. Vol. XII. 4to. Philadelphia, 1862.

624.

1863—Marcou (Jules). Carte géologique de la partie des bords du Missouri entre Omaha City et Sioux City, relevée en 1863.

Accompanying "Le terrain crétacé des environs de Sioux City, de la Mission des Omahas et de Tekama sur les bords du Missouri." Bull. Soc. Géol. France, 2e série. Vol. XXIV, p. 56. Paris, 1866.

Black etching.

625.

1863—Marcou (Jules). Carte géologique d'une partie de Nébraska; relevée en 1863.

Accompanying "Le Dyas au Nébraska," in Bull. Soc Géol. France, 2e série. Vol. XXIV, p. 280. Paris, 1867.

Black etching.

626.

1867—Hayden (F. V.). Map of Nebraska and Dakota. Scale, 19 miles to inch.?

Accompanying "On the geology of the tertiary formations of Dakota and Nebraska." Journ. Acad. Nat. Sciences, 2d series, Vol. VII. Philadelphia, 1869.

627.

1869—Hayden (F. V.). Map of the Yellowstone and Missouri Rivers and their tributaries explored by Capt. W. F. Reynolds and Lieut. H. E. Maynadier, 1859, 1860. Scale, 1:1,200,000. Prepared to accompany the Geological Report of F.V. Hayden, M. D., Geologist to the Expedition.

Accompanying "Geological report of the exploration of the Yellowstone and Missouri rivers" by Dr. F. V. Hayden, assistant. Washington, 1869.

628.

1872—Hayden (F. V.). Map of Nebraska and Dakota, and portions of the States and Territories bordering thereon, compiled by G. K. Warren. Geology by F. V. Hayden. Scale, 1:1,200,000.

Accompanying "Final report of the U. S. geological survey of Nebraska." Washington, 1872.

There is an error in the coloring by a transfer of the colors used for the granitic and metamorphic to the Potsdam sandstone and *vice versa*.

629.

1872—Hayden (F. V.) and **Peale** (A. C.). Montana and Wyoming Territories, embracing most of the country drained by the Madison, Gallatin, and Upper Yellowstone River. Scale, four miles to an inch.

U. S. Geol. Surv. of the Territories. folio. (Washington, 1872.)

No place of publication nor date.

630.

1872—Hayden (F. V.) and **Bradley** (F. H.). Map of the sources of Snake River with its tributaries, together with portions of the headwaters of the Madison and Yellowstone. Scale, five miles to one inch.

U. S. Geol. Surv. of the Territories. folio. (Washington, 1872.)

No place of publication nor date.

631.

1874—Comstock (T. B.). Geological map of Western Wyoming, explored in 1873 by Capt. W. A. Jones. Scale, 1:600,000.

Accompanying "Report upon the reconnaissance of Northwestern Wyoming, including Yellowstone National Park, made in the summer of 1873." Washington, 1875.

632.

1875—Winchell (N. H.). A geological map of the Black Hills. Scale, 6 miles to 1 inch.

Accompanying "Report of a reconnaissance of the Black Hills of Dakota, made in the summer of 1874," by Capt. William Ludlow. 4to. Washington, 1875.

633.

1876—Dana (E. S.) and **Bird** (G. G.). No title. (Cut representing the vicinity of Camp Baker, Upper Missouri.)

Accompanying "Report of a reconnaissance from Carroll, Montana Territory, on the Upper Missouri, to the Yellowstone National Park, and return, made in the summer of 1875," by Capt. William Ludlow. Geological Report, p. 115, Fig. 9. 4to. Washington, 1876.

Black, with geological indications.

634.

1876—Dana (E. S.) and **Bird** (G. G.). No title. (Sketch of Little Rocky Mountains).

Accompanying "Report of a reconnaissance from Carroll, Montana Territory, on the Upper Missouri, to the Yellowstone National Park, and return, in the summer of 1875," by Capt. William Ludlow. Geological Report, p. 129, Fig. 14. 4to. Washington, 1876.

635.

1876—King (Clarence). Geological series. Map I. Rocky Mountains, Wyoming Territory, east half, west half. Scale, four miles to one inch.

Accompanying "Geological exploration of the fortieth parallel." Geological and topographical atlas, folio. New York, 1876.

In two sheets.

636.

1876—King (Clarence). Geological series. Map II. Green River Basin, Wyoming Territory. Scale, four miles to one inch.

Accompanying "Geological exploration of the fortieth parallel." Geological and topographical atlas, folio. New York, 1876.

In two sheets.

637.

1879—Newton (Henry). Geological map of the Black Hills of Dakota. Scale, 1 inch to 4 miles.

Accompanying "Report on the geology and resources of the Black Hills of Dakota." Topographical and geological atlas, folio. New York, 1879.

It is marked "Field work, 1875," and "Publication, 1879." Besides, the 4to volume of the report is marked "Washington, 1880." In fact, both atlas and volume did not appear and were not distributed to the public until 1881. Such discrepancies of date exist also for Clarence **King's** report and atlas, J. W. **Powell's** report and atlas, and F. V. **Hayden's** report and atlas.

XIV.—NORTHWEST TERRITORIES OF THE BRITISH POSSESSIONS COMPRISING MANITOBA, HUDSON'S BAY COMPANY TERRITORY, SASKATCHEWAN RIVER OR ASSINNIBOINIA, BRITISH COLUMBIA, VANCOUVER AND QUEEN CHARLOTTE ISLANDS.

638.

1852—Bigsby (J. J.). Geological map of the Lake of the Woods, South Hudson's Bay.

Accompanying "On the geology of the Lake of the Woods, South Hudson's Bay." Journ. Geol. Soc. London, Vol. VIII, p. 400. London, 1852.

Black etching.

639.

1854—Bigsby (J. J.). Geological map of Rainy Lake.

Accompanying "On the geology of Rainy Lake, South Hudson's Bay." Journ. Geol. Soc. London, Vol. X, p. 215. London, 1854.

Black etching.

640.

1857—Devine (Thomas). Map of the northwest part of Canada, Indian Territory, and Hudson's Bay. Scale, English miles, 69–160 one degree. Toronto, 1857.

In four sheets.

641.

1859—Hector (James). Map of Winipeg Lake Basin. Showing the distribution of superficial deposits.

Accompanying "First general report on the geology of the country examined by the expedition under the command of John Palliser, esq., during the season of 1857." Map 8. In papers relative to the exploration of British North America. Blue Book. 4°. London, 1859.

642.

1860—Hind (H. Y.). Geological map of a part of Rupert's Land.

Accompanying "Narrative of the Canadian Red River exploring expedition of 1857, and of the Assinniboine and Saskatchewan exploring expedition of 1858;" in two volumes. Vol. II, p. 239. London, 1860.

643.

1860—Hind (H. Y.). Geological map of a portion of Rupert's Land.

Accompanying "Reports of progress on the Assinniboine and Saskatchewan exploring expedition." 4°. Blue Book. Toronto, 1859, and London, 1860.

The Toronto edition is on a much larger scale than the London one.

644.

1860—Nicol (C. S.) and **Hector** (James). Plan of Nanaimo, showing the coal mines. Scale, 1 furlong to $\frac{1}{4}$ inch.

Accompanying "Reports of Captain Palliser's exploration of that portion of British North America which in latitude lies between the British boundary line and the height of land or watershed of the northern or frozen ocean, respectively, and in longitude between the western shore of Lake Superior and the Pacific Ocean, during the years 1857–'58–'59, and '60." Index and maps. Blue Book. 4°. London, 1865.

645.

1861—Hector (James). Geological map of the country between Lake Superior and Vancouver Island.

Accompanying "On the geology of the country between Lake Superior and the Pacific Ocean, visited by the Government exploring expedition under the command of Capt. J. Palliser, 1857-1860." Journ. Geol. Soc., London, Vol. XVII. Plate XIII, p. 388. London, 1861.

Black etching, an important map; on the same plate there is also a geological sketch map of Nanaimo, Vancouver Island.

646.

1861—Hector (James). Geological sketch map of Nanaimo, Vancouver Island.

Accompanying "On the geology of the country between Lake Superior and the Pacific Ocean, visited by the Government exploring expedition under the command of Capt. J. Palliser, 1857-1860." Journ. Geol. Soc., London, Vol. XVII. Plate XIII, p. 388. London, 1861.

Black etching, on the same sheet as the map above it, which see.

See **Hector** (James), 1861—No. 645.

647.

1865—Hector (James). Geological sketch map of Nanaimo, in Vancouver Island. Scale, 1 inch to 1 mile.

Accompanying "Reports of Captain Palliser's exploration of that portion of British North America, which in latitude lies between the British boundary line and the height of land or watershed of the northern or frozen ocean, respectively, and in longitude between the western shore of Lake Superior and the Pacific Ocean, during the years 1857-'58-'59, and '60," &c. Index and maps. Blue Book. 4°. London, 1865.

648.

1865—Hector (James). Geological sketch of the southeast of Vancouver Island and part of the coast of the Gulf of Georgia.

Accompanying "Reports of Captain Palliser's exploration of that portion of British North America which in latitude lies between the British boundary line and the height of land or watershed of the northern or frozen ocean, respectively, and in longitude between the western shore of Lake Superior and the Pacific Ocean, during the years 1857-'58-'59, and '60." Index and maps. Blue Book. 4°. London, 1865.

649.

1869—Macfarlane (Thomas). Lithological map of Wood's location. Scale, 2,000 feet to 1 inch.

Accompanying "On the geology and silver ore of Wood's location, Thunder Cape, Lake Superior." The Canadian Naturalist and Geologist. New series, Vol, IV, p. 377. Montreal, 1869.

650.

1871—Richardson (James). Map showing the position of the coal fields of Nanaimo and Comox, Vancouver Island. Scale, 10 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1871-'72; "Report on the coal fields of the east coast of Vancouver Island," p. 100. Montreal, 1872.

Black etching.

651.

1872—Richardson (James). Map of a part of the Strait of Georgia and of Vancouver Island, showing a portion of the Comox coal field and the distribution of the Cretaceous coal-bearing rocks. Scale, 2 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1872-'73; "Report on the coal fields of Vancouver and Queen Charlotte Islands," p. 64. Montreal, 1873.

Black etching.

652.

1874—Selwyn (A. R. C.). Sketch survey of the Saskatchewan River from Rocky Mountain House to Cumberland Lake. Scale, 16 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1873-'74; "Observations in the Northwest Territory on a journey across the plains from Fort Garry to Rocky Mountain House, returning by the Saskatchewan River and Lake Winnipeg," 1873, p. 17. Montreal, 1874.

Black, with geological indications.

653.

1875—Dawson (G. M.). Map of part of the interior region of North America, showing the general character of the drift.

Accompanying "On the superficial geology of the central region of North America." Journ. Geol. Soc., London, Vol. XXXI, p. 623. London, 1875.

Black etching.

654.

1875—Dawson (G. M.). General geological map of the country in the vicinity of the forty-ninth parallel.

Accompanying British North American boundary commission. "Report on the geology and resources of the region in the vicinity of the forty-ninth parallel, from the Lake of the Woods to the Rocky Mountains." Montreal, 1875.

655.

1875—Dawson (G. M.). Geological map of the Lake of the Woods.

Accompanying British North American Boundary Commission. "Report on the geology and resources of the region in the vicinity of the forty-ninth parallel." Montreal, 1875.

656.

1875—Dawson (G. M.). Geological sketch map of the vicinity of Bay Portage, Lake of the Woods.

Accompanying British North American Boundary Commission. "Report on the geology and resources of the region in the vicinity of the forty-ninth parallel." Plate II, p. 46. Montreal, 1875.

Black etching.

657.

1875—Nicholson (H. A.). Sketch map of Lake Superior, &c.

Accompanying "On the mining districts on the north shore of Lake Superior." Trans. North of England Inst. Mining Engrs., Vol. XXIV, Plate XL. Newcastle-upon-Tyne, 1875.

658.

1876—Dawson (G. M.). Geological map of a portion of British Columbia between the Fraser River and the coast range.

Accompanying Geol. Surv. Canada; report of progress for 1876-'77; "Report on explorations in British Columbia, chiefly in the basin of the Blackwater, Salmon, and Nechacco Rivers, and on Francois Lake," p. 17. Montreal, 1878.

659.

1877—Bell (Robert). Map of part of the east coast of Hudson's Bay. Scale, 4 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1877-'78; "Report on an exploration of the east coast of Hudson's Bay." Atlas. Montreal, 1879.

Black, with geological indications.

660.

1877—Richardson (James). Map of a portion of British Columbia, showing the coal fields of Comox, Nanaimo, and Cowitchin, on Vancouver and adjacent islands, and the distribution of the Cretaceous coal-bearing rocks, also the Tertiary rocks of Sooke and Burrard inlet.

Accompanying Geol. Surv. Canada; report of progress for 1876-'77; "Report on the coal fields of Nanaimo, Comox, Cowichen, Burrard Inlet, and Sooke, British Columbia," p. 192. Montreal, 1878.

661.

1877—Selwyn (A. R. C.). Sketch survey of route from Quesnel mouth, by Stewart and MacLeod's Lakes, to the junction of Smoky River and Peace River.

Accompanying Geol. Surv. Canada; report of progress for 1875-'76; "Report on exploration in British Columbia in 1875," p. 1. Montreal, 1877.

Black, with geological indications.

662.

1878—Bell (Robert). Map of Nelson River and the boat-route between Lake Winnipeg and Hudson's Bay, and map of Lake Winnipeg. Scale, 8 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1877-'78; "Report on the country between Lake Winnipeg and Hudson's Bay, 1878." Atlas, Montreal, 1879.

Black, with geological indications; in two sheets.

663.

1878—Dawson (G. M.). Map of the Queen Charlotte Islands. Scale 1 : 506,880.

Accompanying Geol. Surv. Canada; report of progress for 1878-'79; "Report on the Queen Charlotte Islands." Montreal, 1880.

Also in "Petermann's Geographische Mittheilungen." 4to. Vol. XXVII, 1881. Plate XVI. Gotha, 1881.

See **Dawson** (G. M.), 1881—No. 667.

664.

1878—Richardson (James) and **Dawson** (G. M.). Geological map of Skidegate Inlet, Queen Charlotte Islands.

Accompanying: Geol. Surv. Canada; report of progress for 1878-'79. "Report on the Queen Charlotte Islands;" p. 63, B. Montreal, 1880.

The part, by J. Richardson, was surveyed in 1872.

665.

1879—Bell (Robert). Map of Island and God's Lakes, and of the connecting waters to Oxford Lake. Scale, 4 miles to 1 inch.

Accompanying Geol. Surv. Canada; report of progress for 1878-'79. "Report on explorations on the Churchill and Nelson Rivers and around God's and Island Lakes." Montreal, 1880.

Black, with geological indications.

666.

1880—Dawson (G. M.). Map of part of British Columbia and the northwest territory from the Pacific Ocean to Fort Edmonton. Scale, 1 : 506,880.

Accompanying Geol. Surv. Canada; report of progress for 1879-'80. "Report on an exploration from Port Simpson on the Pacific coast, to Edmonton on the Saskatchewan, embracing a portion of the northern part of British Columbia, and the Peace River country." Atlas. Montreal, 1881.

Black, with geological indications, in three sheets.

667.

1881—Dawson (G. M.). Geologische Karte der Queen Charlotte Islands. Scale, 1 : 1,100,000.

Accompanying "Petermann's Geographische Mittheilungen." 4°. Vol. XXVII. Plate XVI. Gotha, 1881.

See **Dawson** (G. M.), 1878—No. 663.

668.

1881—Dawson (G. M.). Geological sketch map of British Columbia. Scale, 100 miles to ½ inch.

Accompanying "Sketch of the geology of British Columbia." The Geological Magazine, Vol. VIII, 2d series, p. 160. London, 1881.

Black etching.

XV.—PACIFIC STATES AND TERRITORIES, COMPRISING ALASKA, WASHINGTON, OREGON, AND CALIFORNIA.

669.

1849—Grewingk (C.). Karte zur Abhandlung über die Geogn. u. orogr. Beschaffenheit der N. W.-Küste Amerika's, u. der anliegenden Inseln mit Zugrundelegung der Karten des Hydrogr. Dep. des See-Ministeriums zu St. Petersburg.

Accompanying "Beitrag zur Kenntniss der orographischen und geognostischen Beschaffenheit der Nord-West-Küste Amerika's, mit den anliegenden inseln." Verhandlungen der Russich-Kaiserlichen Mineralogischen Gesellschaft zu St. Petersburg. Jahrgang, 1848 und 1849, p. 76. Plate II. St. Petersburg, 1850.

Grewingk did not visit Alaska, but constructed the geological map and wrote his memoir from notes taken on the spot by Ilia Wosnessensky, zoölogist of the Museum der Academie der Wissenschaften in St. Petersburg.

670.

1850—Tyson (P. T.). Geological reconnaissance in California.

Accompanying "Report of P. T. Tyson upon the geology of California." Washington, 1850.

Black, with mineralogical indications.

671.

1853—Blake (W. P.). Geological map of the vicinity of San Francisco.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." Vol. V, p. 145. 4°. Washington, 1856.

This map should more exactly be called a mineralogical map.

672.

1855—Blake (W. P.). Geological map of the entrance to San Francisco Bay. Scale, 1:150,000.

Accompanying "Physical geography and geology of the coast of California, from Bodega Bay to San Diego." In Report of the Superintendent of the Coast Survey during the year 1855; 4°. p. 376. Washington, 1856.

Black etching.

673.

1855—Blake (W. P.). Geological map and section of Punta de Los Reyes. Scale, 1:150,000.

Accompanying "Physical geography and geology of the coast of California, from Bodega Bay to San Diego." In Report of the Superintendent of the Coast Survey during the year 1855; 4°. p. 376. Washington, 1856.

Black etching.

674.

1855—Blake (W. P.). Geological map of San Diego and the adjoining coast. Scale, 1:608,228.

Accompanying "Physical geography and geology of the coast of California, from Bodega Bay to San Diego." In Report of the Superintendent of the U. S. Coast Survey during the year 1855; 4°. p. 376. Washington, 1856.

Black etching.

675.

1855—Blake (W. P.). Geological map of Point Pinos, and Monterey Bay. Scale, 1:150,000.

Accompanying "Physical geography and geology of the coast of California, from Bodega Bay to San Diego." In Report of the Superintendent of the Coast Survey during the year 1855; in 4°. p. 376. Washington, 1856.

Black etching.

676.

1855—Blake (W. P.). Geological map of the country between San Diego and the Colorado River, California. Scale, 1:608,228.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." Vol. V. p. 228. 4°. Washington, 1856.

677.

1856—Antisell (Thomas). Geological plan of the Coast Range of California from San Francisco Bay to Los Angeles, explored in 1855–'56 by Lieut. John G. Parke. Scale, 1:1,570,640, or 24 miles to 1 inch.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." Vol. VII. p. 266. 4°. Washington, 1857.

678.

1856—Blake (W. P.). Geological map of a part of the State of California explored in 1853 by Lieut. R. S. Williamson.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." Vol. V. 4°. Washington, 1856.

679.

1856—Blake (W. P.). Geological map of the Tejon Pass and Cañada de las Uvas and the vicinity. Including the Pass of San Francisquito and Williamson's Pass.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." Vol. V. p. 197. 4°. Washington, 1856.

680.

1861—Rémond (A.). [Auguste Rémond de Corbineau.] No title.

Accompanying "Report of an exploration and survey of the coal mines of Monte Diablo district" (California.) San Francisco, 1861.

Small sketch map in black showing tertiary hills.

681.

1873—Bowman (A.), **Pettee** (W. H.), and **Goodyear** (W. A.). Map of the Tertiary auriferous gravel deposits lying between the middle fork of the American and the middle Yuba rivers. Scale, 1 mile to the inch.

Accompanying "The auriferous gravels of the Sierra Nevada of California," by J. D. Whitney. In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. No. 1 (1st part) and (2nd part). 4°. Cambridge, 1880.

In two sheets. East half, corrected and revised, to replace the copy of the same sheet given in Part I. So the book contains two copies of the East half sheet.

It is not exactly a geological map, showing only the "volcanic overflows." The other indications are purely economical. These remarks apply to the other auriferous gravels maps by J. D. Whitney.

682.

1875—Marcou (Jules). Carte géologique de la Californie, 1854–1875. Scale $\frac{1}{6.000.000}$.

Accompanying "Note sur la Géologie de la Californie." Bull. Soc. Géol. France, 3ième série, Tome XI, Plate XI, p. 407. Paris, 1883.

The publication of this map was unavoidably delayed.

683.

1876—Hendel (C. W.). Map of the region near Gibsonville. Scale, 1,200 feet to the inch.

Accompanying "The auriferous gravels of the Sierra Nevada of California," by J. D. Whitney. Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate T, p. 450. Cambridge, 1880.

684.

1877—Bowie (A. J., jr.). Surroundings of River Tunnel, Mariposa estate, 1877, California.

Accompanying "Hydraulic mining in California." Trans. Amer. Inst. Mining Engrs. Vol. VI, Plate I, Fig. 6. Easton, Pa., 1879.

Black etching and lithological indications.

685.

1877—Bowie (A. J., jr.). Map of "River Tunnel" on Mariposa estate, showing the course of vein and workings up to Aug. 5, 1877.

Accompanying "Hydraulic mining in California." Trans. Amer. Inst. Mining Engrs. Vol. VI, Plate I, Fig. 1. Easton, Pa., 1879.

Black etching, and lithological indications.

686.

1879—**Pettee** (W. H.) and **Bowman** (A.). Map showing the extent of the hydraulic mining operations near Gold Run, Dutch Flat, Little York, You Bet, Chalk Bluffs, Red Dog, Hunt's Hill, and Quaker Hill, on Bear River and Cañon, Steep Hollow, and Greenhorn Creeks. Scale, 4 inches to 1 mile.

Accompanying "The auriferous gravels of the Sierra Nevada of California," by J. D. Whitney. In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Cambridge, 1880.

687.

1880—**Bowman** (A.). Map of the Smartsville gravels. Scale, 1 mile to 7 inches.

Accompanying "The auriferous gravels of the Sierra Nevada, of California," by J. D. Whitney. In Mem. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate M., p. 380. Cambridge, 1880.

688.

1880—**Whitney** (J. D.). Diagram showing the position of the Table Mountain lava flow of Tuolumne County. Scale, 2 miles to the inch.

Accompanying "The auriferous gravels of the Sierra Nevada of California." In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate D, p. 132. Cambridge, 1880.

689.

1880—**Whitney** (J. D.). Plan of Spanish Peak gravel deposit.

Accompanying "The auriferous gravels of the Sierra Nevada of California." In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate K, p. 216. Cambridge, 1880.

Black, with lithological inscriptions.

690.

1880—**Whitney** (J. D.). Map of the mining district adjacent to Forest City. Scale, 1 mile to the inch.

Accompanying "The auriferous gravels of the Sierra Nevada of California" In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate Q, p. 432. Cambridge, 1880.

691.

1880—**Whitney** (J. D.). Map to accompany the description of a portion of the region drained by Slate, Cañon, and Goodyear Creeks in Sierra and Plumas Counties. Scale, 2 miles to 1 inch.

Accompanying "The auriferous gravels of the Sierra Nevada of California." In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate R, p. 444. Cambridge, 1880.

692.

1880—Hendel (C. W.). Map of Poverty Hill, Scales's diggings, and vicinity. Scale, 1½ inches to the mile.

Accompanying "The auriferous gravels of the Sierra Nevada of California," by J. D. Whitney. In Mem. Mus. Com. Zoöl. at Cambridge, Mass. Vol VI. 4°. No. 1. Plate U, p. 452. Cambridge, 1880.

693.

1880—Whitney (J. D.). Sketch map, showing the distribution of the volcanic and gravel formations over a portion of Placer and El Dorado Counties, California.

Accompanying "The auriferous gravels of the Sierra Nevada of California." In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate B, p. 82. Cambridge, 1880.

694.

1890—Whitney (J. D.). Distribution of the volcanic formations and gravel near Placerville. Scale, 1 mile = 1⅓ inches.

Accompanying "The auriferous gravels of the Sierra Nevada of California." In Mem. Mus. Comp. Zoöl. at Cambridge, Mass. Vol. VI. 4°. No. 1. Plate C, p. 98. Cambridge, 1880.

XVI.—CENTRAL-WESTERN STATES AND TERRITORIES, COMPRISING NEVADA, UTAH, COLORADO, KANSAS, AND MISSOURI.

695.

1855—Meek (F. B.). Geological map of Moniteau County.

Accompanying "The first and second annual reports of the geological survey of Missouri." Part II, p. 94. Jefferson City, 1855.

696.

1855—Shumard (B. F.). Geological map of Franklin County.

Accompanying "The first and second annual reports of the geological survey of Missouri." Part II, p. 168. Jefferson City, 1855.

Black dotted lines and geological indications.

697.

1855—Shumard (B. F.). Geological map of Saint Louis County.

Accompanying "The first and second annual reports of the geological survey of Missouri." Part II, p. 184. Jefferson City, 1855.

698.

1855—Swallow (G. C.). Geological map of Marion County.

Accompanying "The first and second annual reports of the geological survey of Missouri." Part I, p. 178. Jefferson City, 1855.

699.

1855—Swallow (G. C.). Geological map of Cooper County.

Accompanying "The first and second annual reports of the geological survey of Missouri." Part I, p. 202. Jefferson City, 1855.

700.

1859—Meek (F. B.). Geological map of Miller County.

Accompanying "Reports of the geological survey of Missouri, 1855–1871," p. 110. Jefferson City, 1873.

701.

1859—Meek (F. B.). Geological map of Morgan County.

Accompanying "Reports of the geological survey of Missouri, 1855–1871," p. 134. Jefferson City, 1873.

702.

1859—Phillips (J. V.). Geological map, showing the mineral region contiguous to the Iron Mountain Railroad, Missouri. Scale, 2 inches to 6 miles.

Accompanying "Report on the geology of the mineral districts contiguous to the Iron Mountain Railroad." Saint Louis, 1859.

703.

1859—Swallow (G. C.). Geological map of Southwest Branch Pacific Railroad (Missouri).

Accompanying "Geological report of the country along the line of the Southwestern Branch of the Pacific Railroad, State of Missouri." Saint Louis, 1859.

704.

1870—Emmons (S. F.). Geological map of the Toyabe Mountains (Nevada).

Accompanying "Geological exploration of the fortieth parallel." Vol. III, 4°. Mining Industry. Atlas. Plate 13. New York, 1870.

705.

1870—Hague (Arnold). Geological map of the White Pine mining district (Nevada).

Accompanying "Geological exploration of the fortieth parallel." Vol. III, 4°. Mining Industry. Atlas. Plate 14. New York, 1870.

706.

1870—King (Clarence). Geological map of the Washoe mining district Nevada. Scale, 3 inches to 1 mile.

Accompanying "Geological exploration of the fortieth parallel." Vol. III, 4°. Mining Industry. Atlas. Plate 2. New York, 1870.

707.

1872—Pumpelly (Raphael). Magnetic geological map of the Pilot Knob iron district.

Accompanying "Geological survey of Missouri." Report on the iron ores and coal fields. Atlas. Plate II. New York, 1873.

708.

1872—Swallow (G. C.). Geological map of Missouri.

Accompanying "Geological sketch of the State of Missouri," illustrated by maps. Extract from "Sectional, topographical, and descriptive atlas of the State of Missouri," by R. A. Campbell. Folio. Saint Louis, 1873.

709.

1873—Broadhead (G. C.). Preliminary geological map of Northern Missouri.

Accompanying "Geological survey of Missouri." Report on the iron ores and coal fields. Atlas. Plate V. New York, 1873.

710.

1873—Endlich (F. M.). Geological map of the Central City mining region.

Accompanying "Report of the San Luis division (Colorado); in U. S. Geol. and Geogr. Surv. Territories." Explorations of 1873. Seventh annual report. Part I, p. 280. Washington, 1874.

Black etching.

711.

1873—Endlich (F. M.). Geological map of the Mount Lincoln mining region.

Accompanying "Report of the San Luis division (Colorado); in U. S. Geol. and Geogr. Surv. Territories." Explorations of 1873. Seventh annual report. Part I, p. 302. Washington, 1874.

Black etching.

712.

1873—Marvine (A. R.). Map of the coal openings, railroad, sections, &c., along the eastern base of the mountains near Denver City. Scale, 6 miles to an inch.

Accompanying "Report of the Middle Park Division (Colorado); in U. S. Geol. and Geogr. Surv. Territories." Explorations of 1873. Seventh annual report. Part I, p. 120. Washington, 1874.

Black etching.

713.

1873—Marvine (A. R.). Geological map of the Middle Park.

Accompanying "Report of the Middle Park Division (Colorado); in U. S. Geol. and Geogr. Surv. Territories." Explorations of 1873. Seventh annual report. Part I, p. 154. Washington, 1874.

Black etching.

714.

1873—Marvine (A. R.). Geological map of the region in the neighborhood of the Hot Springs and the Upper Grand; Middle Park.

Accompanying "Report of the Middle Park Division (Colorado); in U. S. Geol. and Geogr. Surv. Territories." Explorations of 1873. Seventh annual report. Part I, p. 162. Washington, 1874.

Black etching.

715.

1873—Potter (W. B.). Geological map of Lincoln County (Missouri). Scale, 1 mile to 1 inch.

Accompanying "Geological survey of Missouri." Report on the iron ores and coal fields. Atlas. Plate VIII. New York, 1873.

716.

1873—Potter (W. B.). Map of Lincoln County coal region (Missouri.)

Accompanying "Geological survey of Missouri." Report on the iron ores and coal fields. Atlas. Plate IX. New York, 1873.

717.

1873—Powell (J. W.). Green River from the Union Pacific Railroad to the mouth of White River (Utah). Scale, 4 miles to 1 inch.

Accompanying "Report on the geology of the eastern portion of the Uinta Mountains and a region of country adjacent thereto." 4°. Atlas. Washington, 1876.

718.

1873—Shumard (B. F.). Geological map of Ozark County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 188. Jefferson City, 1873.

719.

1873—Shumard (B. F.). Geological map of Wright County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 205. Jefferson City, 1873.

Black, with geological indications.

720.

1873—Shumard (B. F.). Geological map of Pulaski County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 224. Jefferson City, 1873.

Black, with geological indications.

721.

1873—Shumard (B. F.). Geological map of Cape Girardeau County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 274. Jefferson City, 1873.

Black, with geological indications.

722.

1873—Shumard (B. F.). Geological map of Saint Geneviève County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 290. Jefferson City, 1873.

Black, with dotted lines and geological indications.

723.

1873—Shumard (B. F.). Geological map of Jefferson County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 304. Jefferson City, 1873.

724.

1873—Shumard (B. F.) Geological map of Clark County.

Accompanying "Geological survey of Missouri, 1855–1871," p. 314. Jefferson City, 1873.

725.

1874—Broadhead (G. C.) and **Schmidt** (A.). Missouri geological survey. Map of the lead region of Central Missouri.

Accompanying "Geological survey of Missouri, 1873–1874." Atlas, folio. Jefferson City, 1874.

Black, with geological indications.

726.

1874—Broadhead and **Norwood**, assisted by **Schmidt** (A.) and **Leonhard** (A.). Geological map of Jasper County, with lead region of Jasper and Newton Counties.

Accompanying "Geological survey of Missouri, 1873–1874." Atlas, folio. Jefferson City, 1874.

727.

1874—Broadhead (G. C.). Missouri geological survey. Cedar County.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.

728.

1874—Broadhead (G. C.). Missouri geological survey. Barton County.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.

729.

1874—Broadhead (G. C.). Missouri geological survey. Vernon County.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.

730.

1874—Broadhead (G.C.) and **Norwood** (C. J.). Missouri geological survey. Howard County.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.

731.

1874—Broadhead (G. C.) and **Norwood** (C. J.). Missouri geological survey. Part of Northern Missouri.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.
Black, with dotted lines and geological indications.

732.

1874—Broadhead (G. C.) and **Norwood** (C.J.). Missouri geological survey. Madison County.
Accompanying "Geological survey of Missouri, 1873-1874." Atlas, folio. Jefferson City, 1874.

733.

1874—Hayden (F. V.) and **Holmes** (W. H.). Geological map of Colorado Springs and vicinity, Colorado. Scale, 1 mile to 1 inch.
Accompanying U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. "Report of F. V. Hayden." Eighth annual report, p. 40. Washington, 1876.
Pink etching.

734.

1874—Hayden (F. V.). Preliminary map of the eastern base of the Rocky Mountains, Colorado, from the Arkansas River to the Wyoming line, showing the limits of the sedimentary rocks, and also the coal outcrops. Scale, 4 miles to 1 inch.
Accompanying U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. "Report of F. V. Hayden." Eighth annual report, p. 41. Washington, 1876.
Black, with geological indications.

735.

1874—Hayden (F. V.) and **Holmes** (W. H.). Map of the Elk Mountains, Colorado. Scale, 2 miles to 1 inch.

Accompanying "Report on the geology of the northwestern portion of the Elk range." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 72. Washington, 1876.

Blue etching.

736.

1874—Peale (A. C.). Map A. Shewing lines of sections (on Eagle River).

Accompanying "Report of middle division (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 84. Washington, 1876.

Black etching.

737.

1874—Peale (A. C.). Map B. Showing lines of section (across Gunnison River).

Accompanying "Report of middle division (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 100. Washington, 1876.

Black etching.

738.

1874—Peale (A. C.). Map C. Showing areas of porphyritic trachyte (Elk Mountains).

Accompanying "Report of middle division (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 166. Washington, 1876.

739.

1874—Peale (A. C.). Map D. Showing areas of rhyolite and breccia (across the Gunnison River).

Accompanying "Report of middle division (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 170. Washington, 1876.

Black etching.

740.

1874—Peale (A. C.). Map E. Showing basaltic plateaus between the Grand and Gunnison Rivers.

Accompanying "Report of middle division (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1874. Eighth annual report, p. 174. Washington, 1876.

Black etching.

741.

1875—Endlich (F. M.). (Geological) Map of Baker's Park and vicinity, (Colorado).

Accompanying "Report on the mines and geology of the San Juan Country." In Bulletin of the U. S. Geol. and Geogr. Surv. Territories. Vol. I, No. 3, second series, p. 164. Washington, 1875.

Black etching.

742.

1875—Endlich (F. M.). Map of Spanish Peaks region.

Accompanying "Geological report on the southeastern district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1875. Ninth annual report, p. 132. Washington, 1877.

Black etching.

743.

1875—Endlich (F. M.). Map of Trinidad region.

Accompanying "Geological report on the southeastern district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1875. Ninth annual report, p. 196. Washington, 1877.

Black etching.

744.

1875—Peale (A. C.). Map of south side of Gunnison River.

Accompanying "Geological report on the Grand River district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1875. Ninth annual report, p. 38. Washington, 1877.

Black etching.

745.

1875—Peale (A. C.). Map of Unaweep Cañon, Colorado.

Accompanying "Geological report on the Grand River district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1875. Ninth annual report," p. 58. Washington, 1877.

Black etching.

746.

1876—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Parts of Eastern California, Southeastern Nevada, Northwestern Arizona, and Southwestern Utah. Scale, 1 inch to 8 miles, or 1:506,880.

Accompanying "Geological atlas projected to illustrate United States geographical surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1876.

747.

1876—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Southern and Southwestern Utah. Scale, 1 inch to 8 miles, or 1:506,880.

Accompanying "Geological atlas projected to illustrate United States geographical surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1876.

748.

1876—Gilbert (G. K.) and **Howell** (E. E.). Restored outline of Lake Bonneville. Scale, 1 inch to 17 miles.

Accompanying "Geological atlas projected to illustrate United States geographical surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1876.

Not exactly a geological map, but a restoration of a great fresh-water lake (Lake Bonneville) as it existed during the quaternary period. Great Salt Lake, Utah Lake, and Sevier Lake are remains of that great lake, equal in extent to Lake Huron.

749.

1876—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Central and Western Utah. Scale, 1 inch to 8 miles, or 1 : 506,880.

Accompanying "Geological atlas projected to illustrate United States geographical surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1876.

750.

1876—King (Clarence). Geological series. Map III. Utah basin. Scale, 4 miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." Geological and topographical atlas, folio. (New York) 1876.

Two sheets.

751.

1876—King (Clarence). Geological series. Map IV. Nevada plateau. Scale, 4 miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." Geological and topographical atlas, folio. (New York) 1876.

Two sheets.

752.

1876—King (Clarence). Geological series. Map V. Nevada basin. Scale, 4 miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." Geological and topographical atlas, folio. (New York) 1876.

Two sheets.

The geological maps of the great folio atlas accompanying Clarence **King's** "Exploration of the fortieth parallel," five in numbers in ten sheets—in fact 10 geological maps—extending from Cheyenne to Pyramid Lake, are a valuable contribution to the geology of a part of the Rocky Mountains and Great Basin in the vicinity of the fortieth parallel. Mr. King had two other geologists associated with him, Messrs. S. F. Emmons and Arnold Hague. It is to be regretted that the Spanish word *Cordilleras* has been used most indiscriminately and inappropriately. Spanish geographers will be surprised to learn that mountain ranges which have been placed by them as Sierras since their discovery, are Cordilieras. It is not only a misapplication of the word Cordillera, but an injustice toward the first scientific explorer of this region, General John C. Fremont, who gave the very appropriate name of "Great Basin" to the whole region between the Sierra Nevada and the Wasatch Mountains.

753.

1876—Peale (A. C.). Map of area B, showing the geology of Grand River Valley and the Book Cliffs.

Accompanying "Geological report on the Grand River district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1876. Tenth annual report. Plate XI, p. 176. Washington, 1878.

Black etching.

754.

1876—Peale (A. C.). Geological map of area A (lying between the San Miguel and Dolores Rivers).

Accompanying "Geological report on the Grand River district (Colorado)." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1876. Tenth annual report. Plate VIII, p. 165. Washington, 1878.

Black etching.

755.

1876—White (C. A.). Geological map of a part of Northwest Colorado.

Accompanying "Report on the geology of a portion of Northwestern Colorado." In U. S. Geol. and Geogr. Surv. Territories. Explorations of 1876. Tenth annual report. Plate II, p. 60. Washington, 1878.

Black etching.

756.

1877.—Gilbert (G. K.). Map of the Henry Mountains. (Colored geologically) from a model in relief.

Accompanying "Report on the geology of the Henry Mountains." 4°. Southern Utah. Plate V. Washington, 1877.

757.

1877—Hayden (F. V.). Northwestern Colorado and part of Utah. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet XI. New York, 1877.

Published 1878. A. R. Marvine, A. C. Peale, F. M. Endlich, and C. A. White, geological assistants. Surveyed 1874–'76.

758.

1877—Hayden (F. V.). Northern Central Colorado. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet XII. New York, 1877.

Published 1878. A. R. Marvine, A. C. Peale, and W. H. Holmes, geological assistants. Surveyed in 1873–'74, and '75.

759.

1877—Hayden (F. V.). Central Colorado. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet XIII. New York, 1877.

Published 1878. F. M. Endlich, A. C. Peale, and W. H. Holmes, geological assistants. Surveyed in 1873–'74, and '75.

760.

1877—Hayden (F. V.). Western Colorado and part of Utah. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet XIV. New York, 1877.

Published 1878. A. C. Peale and W. H. Holmes, geological assistants. Surveyed in 1874–'75, and '76.

761.

1877—Hayden (F. V.). Southwestern Colorado and parts of New Mexico, Arizona, and Utah. Scale, 4 miles to 1 inch, or 1:253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet XV. New York, 1877.

Published 1878. W. H. Holmes and F. M. Endlich, geological assistants. Surveyed in 1874–'75.

762.

1877—Hayden (F. V.). General geological map of Colorado. Scale, 12 miles to 1 inch.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." Folio. Sheet IV. New York, 1877.

Published in 1878. This map has been republished from the atlas for report for 1876, and also for separate distribution.

763.

1877—Hayden (F. V.). Southern Central Colorado and part of New Mexico. Scale, 4 miles to 1 inch, or 1:253,440.

Accompanying "Geological and geographical atlas of Colorado and portions of adjacent territory." folio. Sheet XVI. New York, 1877.

Published 1878. F. M. Endlich, geological assistant. Surveyed in 1874–'75.

764.

1878—King (Clarence). Analytical geological map of the area of exploration of the fortieth parallel. I. Archæan and granitic exposures. Scale, 30 statute miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 126. Washington, 1878.

765.

1878—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. II. Archæan, granitic, and paleozoic exposures. Scale, 30 statute miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology. p. 248. Washington, 1878.

766.

1878—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. III. Pre-mesozoic and mesozoic exposure. Scale, 30 statute miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 356. Washington, 1878.

767.

1878—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. IV. Tertiary exposures. Scale, 30 statute miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 458. Washington, 1878.

768.

1878—King (Clarence). Analytical geological map. VIII, IX, XI, and XII. Exposures of successive orographic disturbances.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 760. Washington, 1879.

A set of five maps corresponding to atlas maps I, II, III, IV, V; giving geological axes, strike, dip, and angle of the strata.

769.

1878—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. V. Glaciers of the ice age. Scale, 30 statute miles to an inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 486. Washington, 1878.

This map is not geological, but merely a physical map giving a more or less exact topographical and physical map of the country during quaternary time.

770.

1878—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. VI. Lakes of the glacial period.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 529. Washington, 1878.

A physical map, only.

771.

1879—King (Clarence). Analytical geological map of the area of the exploration of the fortieth parallel. VII. Tertiary volcanic rocks. Scale, 30 statute miles to 1 inch.

Accompanying "Geological exploration of the fortieth parallel." 4°. Vol. I. Systematic geology, p. 677. Washington, 1878.

772.

1878—Mudge (B. F.). Map showing the superficial strata of Kansas.

Accompanying "Geology of Kansas." Topeka, 1878.

773.

1879—Dutton (C. E.). Geological map of the district of the high plateaus of Utah. Scale, 1 inch to 4 miles.

Accompanying "Report on the geology of the high plateaus of Utah, with atlas." 4°. Atlas, folio, sheet II. New York, 1879.

The atlas is dated 1879, the report 1880, and the distribution of both took place in 1881.

774.

1881—Becker (G. F.). Geological map of Virginia, Nevada, and immediate vicinity. Scale, 1 inch = 1,500 feet.

Accompanying "A summary of the geology of the Comstock lode and the Washoe district." Second annual report of the United States geological survey. Report of the Secretary of the Interior for 1881. Vol. III, Plate, XLVI, p. 293. Washington, 1881.

775.

1881—Dutton (C. E.). Sketch map showing the distribution of the strata and eruptive rocks in the western part of the plateau province. Scale, 16 miles to 1 inch, or 1:1,000,000 nearly.

Accompanying "The physical geology of the Grand Cañon district." Second annual report of the United States geological survey. Report of the Secretary of the Interior for 1881. Vol. III. In pocket in back of volume. Washington, 1881.

776.

1881—Emmons (S. F.). Geological map of Leadville and vicinity, Lake County, Colorado. Scale ½ mile to 1 inch, or 1:2,640.

Accompanying "Abstract of report on geology and mining industry of Leadville, Lake county, Colorado." Second annual report of the United States geological survey. Report of the Secretary of the Interior for 1881, Vol. III, Plate XLIV, p. 240. Washington, 1881.

Carefully made geological map of a difficult and complicated district. Printed also separately.

777.

1881—Hague (Arnold). Geological map of Ruby Hill, Eureka mining district, Nevada.

Accompanying "Report of Mr. Arnold Hague. Division of the Pacific." Second annual report of the United States geological survey. Report of the Secretary of the Interior for 1881. Vol. III, Pl. IX, p. 22. Washington, 1881.

778.

1881—Scudder (S. H.). The tertiary lake basin at Florissant, Colorado. Scale, 1 mile to 1 inch.

Accompanying "The tertiary lake basin, at Florissant, Colorado, between South and Hayden Parks." In Bulletin of the U. S. Geol. and Geogr. Surv. Territories. Vol. VI, No. 2, p, 300. Washington, 1881.

Black etching.

XVII.—SOUTHWESTERN STATES AND TERRITORIES, COMPRISING ARKANSAS, LOUISIANA, INDIAN TERRITORY, NEW MEXICO, TEXAS, AND ARIZONA.

779.

1849—Roemer (Ferdinand). Topographish-geognostische karte von Texas.

Accompanying "Texas." Bonn, 1849.

A very important geological map, the first of Texas.

780.

1856—Antisell (Thomas). Geological plan and section from the Rio Grande to the Pimas villages, explored in 1856 by Lieut. John G. Parke. Scale, 1 : 1,200,000, nearly.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." 4to. Vol. VII, p. 206. Washington, 1857.

781.

1856—Blake (W. P.). Geological map of the route explored by Lieut. A. W. Whipple, near the parallel of the 35° north latitude, from the Mississippi River to the Pacific Ocean. Prepared from the notes and collections of the geologist of the expedition, Mr. Jules Marcou.

Accompanying "Report of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." 4to. Vol. III, p. 176, of Geological Report. Washington, 1856.

782.

1857—Blake (W. P.). Geological map of the route explored by Capt. John Pope, near the 32d parallel of north latidude, from the Red River to the Rio Grande. Scale of 1 : 3,000,000.

Accompanying "Reports of explorations and surveys for a Railroad route from the Mississippi River to the Pacific Ocean." 4to. Vol. II, p. 40, of Geological Report. Washington, 1855.

The date of the publication of this volume is very confused. At the title page the date is 1855; on the geological map it is marked 1854; the report on the geology is dated 1856; and, finally, an explanatory note to geological report by John Pope is dated 1857. This last date is the true one.

783.

1857—Marcou (Jules). Geological map of New Mexico, from a survey made during the months of September, October, November and December, 1853. Scale, 1 : 900,000.

Accompanying "Geology of North America; with two reports on the prairies of Arkansas and Texas, the Rocky Mountains of New Mexico, and the Sierra Nevada of California." Originally made for the United States Government. 4to. Plate VIII. Zurich, 1858.

This map is the first geological map of New Mexico, and the first detailed geological map of any part of the country west of the 100th meridian.

784.

1858—Newberry (J. S.). Geological maps No. 1 and No. 2. Rio Colorado of the West (Arizona). Scale, 12 miles to an inch, or 1 : 760,320.

Accompanying "Geological report of the Colorado exploring expedition," Lieut. J. C. Ives in command. 4to. Washington, 1861.

Two sheets.

785.

1870—Hopkins (F. V.). Preliminary geological map of Louisiana.

Accompanying "First annual Report of the Louisiana geological survey, 1869. Louisiana State University, Baton Rouge." New Orleans, 1870.

The same map, without changes or alterations, accompanies the Second annual Report of the Louisiana geol. surv., New Orleans, 1871.

786.

1871—Hokpins (F. V.). Preliminary geological map of Louisiana.

Accompanying Second annual Report of the Louisiana geological survey. New Orleans, 1871.

See Hopkins (F. V.). 1870—No. 785.

787.

1871—Hilgard (E. W.). Geological map of the Mississippi embayment.

Accompanying "On the geological history of the Gulf of Mexico." Amer. Journ. Silliman. 3d series, Vol. II. New Haven, 1871.

Black etching.

788.

1871—Hilgard (E. W.). Geological map of the Mississippi embayment.

Accompanying "On the geology of lower Louisiana, and the salt deposits on Petite Anse Island." In Smithsonian Contributions to knowledge. 4°. p. 28. Washington, 1872.

Black etching.

789.

1872—Loew (Oscar) and **Roessler** (A. R.). Erforschung von Nordwest—Texas. Scale, 1:2,500,000.

Accompanying "Erforschung des Nordwest-theiles von Texas im Jahre, 1872." Nach den Aufzeichnungen von Dr. O. Loew und A. Roessler zusammengestellt von Abb. S. Gatschet, in New York. Petermann's geographische Mittheilungen 4°. Vol. XIX, Plate XXIII. 1873. Gotha, 1873.

790.

1874—Roessler (A. R.). A. S. Roessler's latest map of the State of Texas exhibiting mineral and agricultural districts, &c. Scale, 20 miles to an inch. New York, 1874.

791.

1875—Gilbert (G. K.). Geological map of the Nutria fold and Zuñi range. Scale, 8 miles to 1 inch.

Accompanying "Geology of portions of New Mexico and Arizona;" in Report upon geographical and geological surveys west of the 100th meridian, in charge of first Lieut. Geo. M. Wheeler. Vol. III, geology. 4°. p. 561. Washington, 1875.

Black etching.

792.

1875—Roessler (A. R.). Map of Llano County (Texas) showing geology, mineral localities, topography, &c. Scale, 4,000 varas to an inch. New York, 1875.

793.

1876—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Parts of Northern and Northwestern Arizona and Southern Utah. Scale, 1 inch to 8 miles, or 1:506,880.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 67. New York, 1876.

794.

1877—Marcou (Jules), **Gilbert** (G. K.), and **Marvine** (A. R.). Parts of Central and Western Arizona. Scale, 1 inch to 8 miles, or 1:506,880.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 75. New York, 1877.

795.

1877—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Part of Eastern Arizona and Western New Mexico. Scale, 1 inch to 8 miles, 1:506,880.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 76. New York, 1877.

Although my notes of 1853–1854 of the exploration of Lieut. A. W. Whipple have been made use of to a certain extent for the geographical distribution of the basalt, triassic, and carboniferous rocks, I requested Lieutenant Wheeler to withdraw my name from the list of geological assistants, on the ground of difference of opinion in regard to the geological age of several groups of rocks.—J. MARCOU.

796.

1877—Gilbert (G. K.), **Howell** (E. E.), and **Loew** (Oscar). Parts of Eastern and Southeastern Arizona, Western and Southwestern New Mexico. Scale, 1 inch to 8 miles, or 1:506,880.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 83. New York, 1877.

The Wheeler Geological Atlas, containing eleven sheets, published between 1875 and 1881, inclusive, is a very important contribution to our knowledge of the geology of the western regions.

797.

1877—Stevenson (J. J.). Part of North Central New Mexico. Scale, 1 inch to 4 miles, or 1:253,440.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." (New York.) (1877.)

See the same map by **Stevenson** (J. J.), 1881—No. 800.

798.

1881—Gilbert (G. K.), **Marvine** (A. R.), and **Howell** (E. E.). Parts of Colorado and New Mexico. Scale, 1 inch to 4 miles, or 1:253,440.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1876.

Parts of sheets number 69, 77, and 78 of the geographical atlas, but in one sheet only of geological atlas.

799.

1881—Stevenson (J. J.). Parts of Southern Colorado and Northern New Mexico. Scale 1 inch to 4 miles, or 1:253,440.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 70 A. New York, 1881.

A first and very limited issue of this sheet was issued in May, 1877.

800.

1881—Stevenson (J. J.). Part of North Central New Mexico. Scale, 1 inch to 4 miles, or 1:253,440.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian of longitude, under the command of First Lieut. Geo. M. Wheeler." Sheet number 70 C. New York, 1881.

It is a second edition; the first being issued in May, 1877, but not distributed.

801.

1881—Stevenson (J. J.). Part of Colorado and New Mexico. Scale, 1 inch to 4 miles, or 1:253,440.

Accompanying "Geological atlas projected to illustrate geographical explorations and surveys west of the 100th meridian longitude, under the command of First Lieut. Geo. M. Wheeler." New York, 1881.

Parts of sheets numbers 69 B, 69 D, 77 B, and 78 A, in one single sheet.

Prof. **Cope** and Dr. Oscar **Loe** assisted in part for the fragment of map No. 69 D.

N. B.—The three last maps by Stevenson (J. J.), Nos. 779, 800, and 801, were placed in pocket in back of Vol. III.—Supplement—Geology.—In Report upon Unite States geographical surveys west of the 100th meridian, in charged of Captain Geo. M. Wheeler. 4°. Washington, 1881.

XVIII.—MEXICO.

802.

1832—Burkhart (Joseph). Geognostische Skizze des Weges von Tlalpujahua nach Huetamo dem Jorullo und Valladolid. Maasstab von 20 leguas 26.63 auf einen Grad.

Accompanying "Geognostícha Bemerkungen, gesammelt auf einer Reise von Tlalpujahua nach Huetamo, dem Jorullo, Patzcuaro, und Valladolid, im Staate von Michoacan." Karsten Archiv für Mineralogie, &c. Vol. V, Plate III. Berlin, 1832.

803.

1836—Burkhart (Joseph). Karte des Gebirges von Zacatecas.

Accompanying "Aufenthalt und Reisen in Mexico in den Jahren 1825 bis 1834." Stuttgart, 1836.

Not seen.

804.

1838—Galeotti (H. G.) Carte géognostique des environs de Zimapan au Méxique.

Accompanying "Notice géologique sur les environs de San José del Oro." Bulletin de l'Académie royale de Belgique, Vol. V, p. 737. Bruxelles, 1838.

805.

1864—Egloffstein (Baron F. W.) and **Gerolt** (Baron Frederich von). Geological map and profiles of some of the principal mining districts of Mexico. Scale of 12 miles to the inch, or 1 : 760,320.

Accompanying "Contributions to the geology and the physical geography of Mexico." New York, 1864.

Egloffstein is only the editor. The true author of the geological map, profiles, and descriptions is Baron Frederick von **Gerolt**, formerly Prussian minister at Mexico and afterwards at Washington.

806.

1865—Dollfus (Auguste) and **Montserrat** (Eugène de). Croquis géologique et topographique des environs de Toluca. Scale, 1 : 300,000.

Accompanying "Archives de la commission scientifique du Mexique." Tome III, p. 28. Paris, 1867.

807.

1867—Dollfus (Auguste), **Montserrat** (Eugène de), et **Pavie** (Paul). Carte géologique du district minier de Zomelahuacan. Scale, 1 : 75,000.

Accompanying "Archives de la commission scientifique du Mexique." Tome II, p. 338. Paris, 1867.

808.

1871—Barroso (Agustin). Carta geologica del istmo de Tehuantepec, formada por la comision Mexicana que exploro el Istmo el ano, 1871. Scale, 1 : 500,000.

Accompanying "Memoria sobre la geologia del istmo de Tehuantepec." Anales del ministerio de Fomento de la republica Mexicana." Tomo III, p. 330. Mexico, 1880.

Date of exploration, 1871. Date of report, April, 1874, and date of publication, 1880.

809.

1871—Castillo (Antonio del). Mapa topografico y geognostico de las immediaciones de las minas de azogue del Tequezquite en el departmento de Zacatecas. Scale, 3,000 varas mexicanas.

Accompanying "Memoria sobre las Minas de azogue de America." La Naturaleza, p. 48. 4°. Mexico, 1871.

Black, with mineralogical indications.

810.

1871—Spear (J. C.). Geological map of the isthmus of Tehuantepec.

Accompanying "Reports of exploration and surveys, to ascertain the practicability of a ship canal between the Atlantic and Pacific Oceans," by Robert W. Shufeldt, Captain, U. S. N. 4°. Washington, 1872.

More exactly, a mineralogical and lithological map.

811.

1873—Barcena (Mariano). Croquis geologico de una parte del estado de Queretaro.

Accompanying "Memoria presentada al Senor don Blas Balcarcel, director de la escuela especial de Ingenieros." Ministerio de justicia e instruccion publica de los Etados-Unidos Mexicanos. P. 9. 4°. Mexico, 1873.

812.

1875—Iglesias (Miguel), **Barcena** (Mariano), et **Matute** (J. I.). Plano geologico del volcan del Ceboruco. Scale, 1 : 75,000.

Accompanying "Memoria de la comision exploradora del volcan del Ceboruco," near Tepic Jalisco. Anales del ministerio de Fomento de la republica Mexicana. Tomo I, p. 115, febrero de 1877. Mexico, 1877.

813.

1876—Barcena (Mariano). Carta geologica de una parte del estado de Aguas Calientes.

Accompanying "Noticia geologica del Estado de Aguas calientes." El Propagador industrial. Tomo I, p. 348. 4°. Mexico, 1876.

814.

1877—Barcena (Mariano). Formacion geologica del camino de Pachuca a Jacala y del distrito de este nombre, en el estado de Hidalgo.

Accompanying "Noticia cientifica de una parte del estado de Hidalgo." Anales del Ministerio de Fomento de la republica Mexicana. Tomo I. Marzo de 1877, p. 340. Mexico, 1877.

XIX.—WEST INDIES OR ANTILLES, COMPRISING ALL THE ISLANDS BETWEEN THE BAHAMAS AND TRINIDAD.

815.

1819—Nugent (Nicholas). Map of the island of Antigua, in the West Indies.

Accompanying "A sketch of the geology of the island of Antigua." Transactions of the Geological Society. 4°. Vol. V, Plate XXXII. London, 1821.

816.

1821—Maycock (J. D.). Geological map of Barbadoes.

Accompanying "Geological description of Barbadoes, with a map of the island." The quarterly journal of science of the Royal Institution of Great Britain. Volume XI, Pl. I. London, 1821.

817.

1825—De la Beche (H. T.). Geological map of part of Jamaica.

Accompanying "Remarks on the geology of Jamaica." Transactions of the Geological Society, 2d series, 4° Vol. II, Part II, Plate XVIII. London, 1827.

818.

1843—Taylor (R. C.). Rough sketch or reconnaissance of the copper region and of the geology of the Savanna region of Gibara in the island of Cuba. Scale, 1 mile to 1 inch.

Accompanying "Memoir on the character and prospects of the copper region of Gibara, and a sketch of the geology of the northeast part of the island of Cuba." Trans. Amer. Phil. Soc. New Series, 4°, Vol. IX, Article VII, Plate XXXIII. Philadelphia, 1846.

Black with geological indications.

819.

1860—Wall (G. P.) and **Sawkins** (J. G.). Geological map of Trinidad. Scale, 1 inch to 4 miles.

Accompanying "Report on the geology of Trinidad." London, 1860.

820.

1864—Duncan (P. M.) and **Wall** (G. P.). Geological sketch-map of the district of upper Clarendon, Jamaica.

Accompanying "A notice of the geology of Jamaica, especially with reference to the district of Clarendon." Journ. Geol. Soc. London, Vol. XXI, p. 3, London, 1865.

Black etching.

821.

1865—Sawkins (J. G.) and **Brown** (C. Barrington). Geological map of Jamaica. Scale, one mile to $\frac{1}{4}$ of an inch, or 1 : 253,410.

Accompanying "Reports on the geology of Jamaica." London, 1869.

822.

1866—Julien (A. A.). Key of Sombrero, W. I. Scale, 800 feet to the inch.

Accompanying "On the geology of the Key of Sombrero, West India." Annals of Lyceum of Natural History of New York, Vol. VIII, Plate IV. New York, 1867.

Black etching.

823.

1871—Cleve (P. T.). Map of Salt Island, Cooper Island, Ginger Island, and Round Rock.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, p. 13. 4°. Stockholm, 1871.

Black etching.

824.

1871—Cleve (P. T.). No title (map of Puerto Rico).

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar Bandet 9, No. 12, p. 15. 4°. Stockholm, 1871.

Black etching.

825.

1871—Cleve (P. T.). No title (map of Saba Island).

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, p. 19. 4°. Stockholm, 1871.

Black etching.

826.

1871—Cleve (P. T.). Map of St. Martin.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, p. 23. 4°. Stockholm, 1871.

Black etching.

827.

1871—Cleve (P. T.). Geological map over the northeastern West India Islands. Scale, $\frac{1}{1,751,000}$.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, Tafl. I. 4°. Stockholm, 1871.

Black etching.

828.

1871—Cleve (P. T.). Geological map over a part of the Virgin Islands, W. I.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, Tafl. II. 4°. Stockholm, 1871.

Black etching.

829.

1871—Cleve (P. T.). Geological map over St. Croix.

Scale, $\frac{1}{232,000}$.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, Tafl. II. 4°. Stockholm, 1871.

Black etching.

830.

1871—Cleve (P. T.). Geological map over St. Bartholomew.

Accompanying "On the geology of the northeastern West India Islands." Kongl. Svenska Vetenskaps-Akademiens Handlingar, Bandet 9, No. 12, Tafl. II. 4°. Stockholm, 1871.

Black etching.

831.

1872—Gabb (W. M.). Geological map of the Republic of Santo Domingo. Scale, 12 miles to the inch.

Accompanying "On the topography and geology of Santo Domingo." Trans. Amer. Phil. Soc., New Series, Vol. XV, Article IV, p. 260. 4°. Philadelphia, 1881.

832.

1877—Guppy (R. J. L.). Sketch map of the northwestern part of Trinidad.

Accompanying "On the physical geography and fossils of the older rocks of Trinidad." Proceedings of the Scientific Association of Trinidad, Vol. II, p. 115. Port of Spain, 1877.

Black etching.

833.

1880—Salterain y Legarra (Pedro). Mapa geológico y topográfico en bosquejo de las jurisdicciones de la Habana y Guanabacoa (Isla de Cuba). Scale, 1 : 200,000.

Accompanying "Apuntes físico-geológicos de la Habana y Guanabacoa." Boletin de la comision del mapa geológico de España, tomo VII. Lamina D. Madrid, 1880.

An important and well executed map. Published also separately.

XX.—CENTRAL AMERICA, COMPRISING BRITISH HONDURAS OR BELIZE, HONDURAS, GUATEMALA, SALVADOR, NICARAGUA, AND COSTA RICA.

834.

1865–1866—Dollfus (Auguste) and **de Montserrat** (Eugène). Esquisse d'une carte géologique d'une partie des républiques de Guatemala et de Salvador (Amérique Centrale). Scale, 1 : 761,000.

Accompanying "Voyage géologique dans les républiques de Guatemala et de Salvador." Planche V. 4°. Paris, 1868.

Very important and well executed.

XXI.—SOUTH AMERICA IN GENERAL.

835.

1842—Orbigny (Alcide d'). Carte de l'Amérique méridionale indiquant ses différentes époques géologiques.

Accompanying "Voyage dans l'Amérique méridionale," tome III, 3me, partie: Géologie. Atlas. Planche X. Paris, 1842.

Black etching.

836.

1856—Foetterle (Franz). Geologische Übersichts-Karte von Süd-Amerika. Scale, 1 : 25,000,000.

Accompanying "Die Geologie von Süd-Amerika." Petermann's geographische Mittheilungen, Jahrgang 1856, vol. II, p. 187. Plate 11. 4°. Gotha, 1856.

837.

1868—Martin de Moussy (V.). Carte physique de l'Amérique du Sud.

Accompanying "Description géographique et statistique de la Confédération Argentine," 2me édition. Atlas. Planche XIX. folio. Paris, 1873.

A compilation of Foetterle and Marcou geological maps of South America and The World.

XXII.—ECUADOR, COLOMBIA OR NEW GRANADA, AND VENEZEULA.

838.

1839—Degenhardt (Carl). Plan-Umgegend von El Quarzo der Salzquellen und der Goldseifenwercke. Maasstab von 900 englischen Lachtern à 6 Fuss.

Accompanying "Ueber die Salzquellen des nördlichen Theiles der Provinz Antioquia und die Gebirgsformationen der Umgebung von Medellin im Freistaate von Neu-Grenada." Karsten: Archiv für Mineralogie, etc. Vol. XII. Taf. I. Berlin, 1839.

839.

1841—Degenhardt (Carl). Carte géologique du district de la Baja, province de Pamplona, Colombie.

Accompanying "Monatsberichte über die Verhandlungen der Gesellschaft für Erdkunde zu Berlin." Berlin, 1842.

Not seen.

840.

1850—Karsten (Hermann). Geognostische Karte des nordöstlichen Venezuela.

Accompanying "Beitrag zur Kenntniss der Gesteine des nördlichen Venezuela." In the Zeitschrift der deutschen geologischen Gesellschaft. II. Band. Taf. XI. Berlin, 1850.

841.

1850—Anonymous. Isthmus of Panama; geological coloring.

Accompanying the upper left hand corner of "A new map of Central America, showing the different lines of Atlantic and Pacific communication." Published by J. Disturnel. New York, 1850.

A fancy geological map made for the gold seekers of California, 1849-'50.

842.

1852—Taylor (R. C.). A map of the Rio Palenque, R. Escribanos, R. Valencia, and R. del Rey, in the auriferous porphyry region of the Province of Veraguas and Isthmus of Panama. Scale of $\frac{3}{8}$ of an inch to a mile.

Accompanying "Substance of notes made during a geological reconnaissance in the auriferous porphyry region next the Caribbean Sea." Journ. Acad. Nat. Sciences of Philadelphia. 4°. 2d Series. Vol. II. Article IX, p. 184. Plate X. Philadelphia, 1850-'54

Black, with geological indications.

843.

1856—Karsten (Hermann). Karte der Verbreitung der geognostischen Formationen in Columbien.

Accompanying "Die geognostischen Verhältnisse Neu-Granada's." Verhandlungen der Versammlung deutscher Naturforscher. 4°. Wien, 1856.

844.

1856—Karsten (Hermann). Columbien zur Zeit der Kreideformation.

Accompanying "Die geognostischen Verhältnisse Neu-Granada's." Verhandlungen der Versammlung deutscher Naturforscher. 4°. Wien, 1856.

Black etching. This map is on the same sheet with the one previously cited.

845.

1860—Wall (G. P.). Maps and sections of the northern part of South America.

Accompanying "On the geology of a part of Venezuela and of Trinidad." Journ. Geol. Soc. London. Vol. XVI, p. 460. London, 1860.

Black etching.

XXIII.—GUIANA AND BRAZIL.

846.

1841—**Claussen** (P.). Carte géologique d'une partie de la province de Minas Geraes au Brésil.

Accompanying "Notes géologiques sur la province de Minas Geraes au Brésil." Bull. Acad. royal de Bruxelles, tome VIII, No. 5. Bruxelles, 1841.

847.

1854—**Foetterle** (Francisco) and **Haidinger** (Guilherme). Golpe de vista geologico do Brezil e de algunas outras partes centraes de America do Sul. Scale 1:15,000,000.

Accompanying "Die geologische Uebersichtskarte des mittleren Theiles von Süd-Amerika." Wien, April, 1854.

This map, in Portuguese language, and published with a memoir in German to explain it, was constructed for Prof. Dr. von Martius, of München, for his great work on Brazil.

848.

1871—**Hartt** (C. F.). Sketch map of vicinity of Monte Alegre and Ereré.

Accompanying "Contributions to the geology and physical geography of the Lower Amazonas," in Bulletin Buffalo's Soc. Nat. Sciences, p. 201. Buffalo, 1871.

Black, with geological indications.

849.

1873—**Brown** (C. Barrington). Geological map of British Guiana. Scale, one inch to 13:6 geographical miles.

Accompanying "Reports on the physical, descriptive, and economic geology of British Guiana," by C. B. Brown and J. G. Sawkins. London, 1875.

850.

1879—**Brown** (C. Barrington). Map of a portion of South America, showing the position and extent of the old river-deposit on the Amazon, east of Tabatinga.

Accompanying "On the ancient river-deposit of the Amazon." Jour. Geol. Soc. London, Vol. XXXV, p. 763. Plate XXXVIII. London, 1879.

Black etching.

XXIV.—PARAGUAY, URUGUAY, REPUBLICA ARGENTINA, PATAGONIA, FALKLAND ISLANDS OR ISLAS MALVINAS, AND TIERRA DEL FUEGO.

851.

1835—Orbigny (Alcide d'). Carte géologique d'une partie de la République Argentine, comprenant les provinces de Corrientes et des Missions.

Accompanying "Voyage dans l'Amérique méridionale"; partie historique. Atlas. Carte No. 3. Paris, 1835.

852.

1838—Orbigny (Alcide d'). Carte géologique d'une partie de la République Argentine, comprenant les provinces de Santa Fé, d'Entre-Rios, de Buenos-Aires, et la partie septentrionale de la Patagonie. Scale, 20 lieues au degré.

Accompanying "Voyage dans l'Amérique méridionale"; partie historique. Atlas. Carte No. 1. Paris, 1838.

853.

1857—Bravard (Auguste). Mapa geologico y topografico de los alrededores de Bahia Blanca. Buenos Ayres, 1857.

Unseen. Copied from "Compte rendu de la Société de Géographie de Paris," No. 1, 1884, p. 32, Paris, where the name of the author is given as Ravard.

854.

1869—Martin de Moussy (V.). Carte physique de la Confédération Argentine.

Accompanying "Description géographique et statistique de la Confédération Argentine." Deuxième édition, atlas, planche XX. folio. Paris, 1873.

855.

1875—Stelzner (Alfr.). A geological map of a part of the Argentine Republic.

Accompanying "Boletin de la Academia nacional de ciencias exactas existentes en la universidad," Vol. I. Buenos Ayres, 1875.

Unseen; published by Dr. Burmeister.

856.

1876—Burmeister (Hermann). Carte géognostique d'une partie de la République Argentine entre les 65°–73° de longitude et 25°–34° de latitude.

Accompanying "Tableau géognostique de la République Argentine. Description physique de la République Argentine." Tome II, livre IV, p. 151. Paris, 1876.

857.

1876—Schickendantz (Federico). No title. (A small sketch map of a part of the province of Catamarca.)

Accompanying "The natural sulphates of the province of Catamarca." In, The Argentine Republic, by Richard Napp, p. 215. Buenos Aires, 1876.

Black, with geological inscriptions.

858.

1880—Lallemant (G. A.). Los lavaderos y criaderos auriféros.

Accompanying "Notas sobre los lavaderos y criaderos auriféros de los Cerritos Blancos en la sierra de San Luis." Anales de la Sociedad cientifica Argentina. Tomo IX, Entrega V, p. 208. Buenos Aires, 1880.

Black etching; the text says it is colored, los lavaderos = color de carmin; los cumulos de traquita = color amarillo.

XXV.—CHILE, BOLIVIA, AND PERU.

859.

1827—Rivero (M. de). View and topographical plan of the new town of the hill Pasco, taken from the lake of Quinlacocha.

Accompanying "A sketch of the rich mine of Pasco." Amer. Journ. Sillimann. Vol. XV. New Haven, 1829.

This map is colored lithologically in five colors. Translated from Journal of Natural Science and National and Foreign Industry of M. de Rivero. Vol. I, No. 2. Lima, 1828.

860.

1840—Domeyko (Ignace). Esquisse d'une carte géologique de la vallée d'Elqui.

Accompanying "Sur un terrain stratifié situé dans le haut des Cordillières, et sur les silons métallifères qui l'accompagnent." Annales des mines, 3e série, Tome XVIII, Pl. II, p. 59. Paris, 1840.

Black etching.

861.

1842—Orbigny (Alcide d'). Carte géologique de la République de Bolivia.

Accompanying "Voyage dans l'Amérique méridionale." Tome III, 3me partie. Géologie. Atlas. Carte No. 4. Paris, 1842.

The most important geological map on South America, giving data on the geological structure of the Andes, for the first time in geology.

862.

1846—Domeyko (Ignace). Carte géologique et minéralogique du Chili.

Accompanying "Recherches sur la constitution géologique du Chili." Annales des mines, 4e sèrie Vol. IX, Planche IV, p. 365. Paris, 1846.

Black etching. The first important and exact geological work on Chili.

863.

1848—Domeyko (Ignace). Carte géologique des environs de Coquimbo.

Accompanying "Sur le terrain tertiaire et les lignes d'ancien niveau de l'Océan du sud, aux environs de Coquimbo (Chili)." Annales des mines, 4e série. Vol. XIV, p. 153, Pl. II. Paris, 1848.

Black etching.

864.

1848—Domeyko (Ignace). Carte géologique des environs de la Concepcion.

Accompanying "Sur la composition géologique du Chili, à la latitude de Concepcion, depuis la baie de Talcahuano jusqu' au sommet de la cordillère de Pichachen, comprenant la description du volcan d'Antuco." Annales des mines, 4e série. Vol. XIV, pp. 163 et 186. Pl. III. Paris, 1848.

Black etching.

865.

1860—Forbes (David). Geological sketch map of part of Bolivia and Peru.

Accompanying "Report on the geology of South America, by David Forbes. Part I. Bolivia and Southern Peru, with notes on the fossils, by Huxley, Salter, and Jones." Journ. Geol. Soc. London. Vol. XVII. London, 1861.

An important map, on a very small scale, which corrects some parts of d'Orbigny's map; it is also separately printed.

866.

1867—Simonin (Louis). Carte des terrains métallifères du Chili, d'après Gay et Domeyko.

Accompanying "La vie souterraine, ou les mines et les mineurs." Carte XII, p. 424. Paris, 1867.

867.

1868—Concha i Toro (Enrique). Plano que indiqua la situacion del Terreno Terciario inferior i cretaceo superior entre los Puertos de Tomé i Leuvu.

Accompanying "Memoria sobre los formaciones cuaternarias, terciarias, i cretácea (superior) de Chile, relativas principalmente a la parte meridional de este pais." Anales de la Universidad de Chile, tomo XXXII, no. 5, p. 390. Santiago de Chile, 1869.

Black etching.

868.

1873—Pissis (A.). Plano topographico y geologico de la Republica de Chile levantado por órden del gobierno, bajo la direccion de A. Pissis. Scale, 1: 250,000. Paris, 1873.

In 13 sheets. No date nor place of publication, but 1873 may be considered as the exact date of issue, and Paris is the place where it was executed. The map is colored geologically, but a certain number of copies have been issued in black with limit of the rocks in dotted lines, and geological inscriptions with letters.

It is the most important geological map and work published as yet on South America, and is very creditable, both to its author, M. A. Pissis, and the Chilian Government.

869.

1873—Pissis (A.). Carte géologique de la région des Andes entre 22° et 42° Sud. Scale, 1: 5,000,000.

Accompanying "Mémoire sur la constitution géologique de la chaîne des Andes entre le 16e et le 53e degré de latitude sud." Annales des mines, vol. III, p. 404. Paris, 1873.

A valuable map, giving, on a smaller scale, the results contained in Pissis' large map in 13 sheets.

870.

1875—Pissis (A.). Plano del grupo volcanico de los volcanes del Descabezado (Chile). Scale, 1: 100,000.

Accompanying "Atlas de la geografía física de la República de Chile." Lamina 19. In folio. Paris, 1875.

Explanation of the atlas, in Geografía física de la República de Chile, p. 341.

SUPPLEMENT.

The number between brackets shows the correct position of the map in the general catalogue.

II.—NORTH AMERICA IN GENERAL.

871 [30*a*].

1843—Castelnau (Francis de). Carte théorique de l'Amérique Sept^ale^ avant le soulèvement des Illinois. (Epoque silurienne.)

Accompanying "Essai sur le système Silurien de l'Amérique septentrionale." 4°. Pl. I. Paris, 1843.

In black. A very rough sketch map with geological inscriptions only.

872 [59*a*].

1866—Daddow (S. H.). Map of the Alleghany coal field.

Accompanying "Coal, iron, and oil; or the practical American miner," p. 318. Pottsville, Pa., 1866.

In black.

873 [59*b*].

1866—Daddow (S. H.). Map of the great coal field in Iowa and Missouri.

Accompanying "Coal, iron, and oil; or the practical American miner," p. 377. Pottsville, Pa., 1866.

In black.

874 [59*c*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Great central coal field. (Illinois, Indiana, and western Kentucky.)

Accompanying "Coal, iron, and oil; or the practical American miner," p. 362. Pottsville, Pa., 1866.

In black.

875 [80*a*].

1880—Hayden (F. V.). General geological map of the area explored and mapped by Dr. F. V. Hayden and the surveys under his charge, 1869 to 1880. Scale, 1:2,600,000 or 41.03 miles to 1 inch.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories, for the year 1878." Maps and panoramas in accompanying pocket, sheet XI. Washington, 1883.

This map was issued February, 1884, several months after the report and pocket. It embraces Nebraska, Dakota, Montana, Idaho, Wyoming, Utah, Colorado, and very small portions of New Mexico and Arizona.

876 [80*b*].

(1881)—Chamberlin (T. C.). Geological map of the United States, compiled from various official sources.

Accompanying "Wisconsin geological survey," Vol. I, Part I, Pl. III, p. 79. Madison, 1883.

Black etching. There is no name of author nor date on the map.

V.—ACADIA.

877 [131*a*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Maps of the Arcadian Coal fields.

Accompanying "Coal, iron, and oil; or the practical American miner," p. 387. Pottsville, Pa., 1866.

In black. A reduced copy of the map of the New Brunswick, Nova Scotia, Cape Breton, and Newfoundland coal fields, by R. C. Taylor.

See **Taylor** (R. C.), 1848—No. 121.

VII.—NEW ENGLAND.

878 [208*a*].

1848—Thompson (Zadock). Geological map of Vermont.

Accompanying "Geography and geology of Vermont," p. 44. 12°. Burlington, 1848.

Black etching.

879 [276*a*].

1856—Lesley (J. P.). No title. (Map intended to exhibit the north-eastern portion of the great eastern coal field of the United States.)

Accompanying "Manual of coal and its topography," 12°, p. 76, fig. 20. Philadelphia, 1856.

Black etching.

880 [276*b*].

1856—Lesley (J. P.). No title. (Map of the region of the Juniata.)

Accompanying "Manual of coal and its topography," 12°, p. 137, fig. 37. Philadelphia, 1856.

In black.

881 [285*a*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Map of the Broad Top coal field.

Accompanying "Coal, iron, and oil; or the practical American miner," p. 299. Pottsville, Pa., 1866.

In black.

882 [285*b*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Map of Cumberland coal field (Maryland).

Accompanying "Coal, iron, and oil; or the practical American miner," p. 332. Pottsville, Pa., 1866.

In black.

883 [307*a*].

1876—Lesley (J. P.) and **Frazer** (P., jr.). Geological maps of Adams County.

Accompanying "2d Geol. Surv. Pennsylvania." Adams, Franklin, Cumberland maps, atlas, D. 5. Harrisburg (1883).

884 [324*a*].

1878—Lesley (J. P.), **Prime** (F., jr.), **Clark** (E., jr.), and **Berlin** (A. P.). Geological and Topographical map of a part of Northampton County.

Accompanying "2d Geol. Surv. Pennsylvania." Lehigh, Northampton, and Berks, atlas to D. 3, Vol. I and Vol. II. Harrisburg, 1878.

In six sheets.

885 [343*a*].

1880—Frazer (P., jr.). Geological map of Chester County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." The geology of Chester County, C. 4. Harrisburg, 1883.

886 [343*b*].

1880—Lesley (J. P.). Geological map of Cumberland County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Adams, Franklin, Cumberland maps, atlas D. 5. Harrisburg (1883).

887 [349*a*].

1881—Lewis (H. C.) and **Wright** (G. F.). Map showing the course of the great terminal Moraine across Pennsylvania.

Accompanying "2d Geol. Surv. Pennsylvania." Report on the terminal Moraine in Pennsylvania and Western New York. Report of progress. Z. Harrisburg, 1884.

888 [351*a*].

1881—Sanders (R. H.). Geological map of Franklin County. Scale, 2 miles to 1 inch.

Accompanying "2d Geol. Surv. Pennsylvania." Adams, Franklin, Cumberland, atlas D. 5. Harrisburg (1883).

889 [528*a*].

1879—King (F. H.). Map of a portion of the Upper Flambeau valley showing the position of Archæan exposures.

Accompanying "Wisconsin geological survey," Vol. IV, Part VI, Pl. XII, p. 585. Madison, 1882.

Black, with lithological inscriptions. There is no name of author on the map.

890 [536*a*].

1881—Chamberlin (T. C.). General geological map of Wisconsin.

Accompanying "Wisconsin geological survey." Atlas, Vol. IV, folio, Pl. I. Milwaukee, 1882.

891 [536*b*].

1881—Chamberlin (T. C.). General map of the Quaternary formations of Wisconsin.

Accompanying "Wisconsin geological survey." Atlas, Vol. IV, folio, Pl. II. Milwaukee, 1882.

892 [536*c*].

1881—Chamberlin (T. C.). General geological map of Wisconsin.

Accompanying "Wisconsin geological survey," Vol. I, Part I, Pl. II, p. 64. Madison, 1883.

Black etching. There is no name of author on the map.

893 [536*d*].

(1881)—Irving (R. D.). Crystalline rocks of the Wisconsin valley (from Pine river to Grandfather Bull falls; sketch map No. VIII). Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XXI, p. 702. Madison, 1882.

Black etching and lithological inscriptions. There is no date nor name of author on the map.

894 [536*e*].

(1881)—Irving (R. D.). Crystalline rocks of the Wisconsin valley (from Junction river to Mosinee; sketch map No. IV). Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XVII, p. 650. Madison, 1882.

Black, with lithological inscriptions. There is no date nor name of author on the map.

895 [536*f*].

(1881)—**Irving** (R. D.). Crystalline rocks of the Wisconsin valley. (Vicinity of Wausau; sketch map No. V.) Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XVIII, p. 661. Madison, 1882.

Black, with lithological inscriptions. There is no date nor name of author on the map.

896 [536*g*].

1881—Irving (R. D.). Crystalline rocks of the Wisconsin valley. (Upper Eau Claire River; sketch map No. VI.) Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XIX, p. 686. Madison, 1882.

Black etching and lithological inscriptions. There is no date nor name of author on the map.

897 [536*h*].

1881—Irving (R. D.). Crystalline rocks of the Wisconsin valley. (Rib River valley above Marathon; sketch map No. VII.) Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XX, p. 692. Madison, 1882.

Black etching and lithological inscriptions. There is no date nor name of author on the map.

898 [536*i*].

1881—Irving (R. D.). Map illustrating the general distribution of the crystalline rocks of the upper Wisconsin valley. Scale, 6 miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, No. 1, p. 625. Madison, 1882.

There is no date nor name of author on the map. By an oversight this map has been numbered No. 1, and is not contained in the list of illustrations, lithographic plates p. xxii.

899 [536*j*].

1881—Irving (R. D.). Crystalline rocks of the Wisconsin valley. (Vicinity of Grand Rapids; sketch map No. I.) Scale, 1⅓ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XIV, p. 627. Madison, 1882.

There is no date nor name of author on the map. It is also numbered No. I, like the preceding map.

See **Irving** (R. D.), 1881—No. 898.

900 [536*k*].

1881—Irving (R. D.). Crystalline rocks of the Wisconsin valley. (Vicinity of Stevens Point; sketch map No. II.)

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XV, p. 639. Madison, 1882.

There is no date nor scale nor name of author on the map.

901 [536*l*].

1881—Irving (R. D.). Crystalline rocks of the Wisconsin valley. (Yellow River; sketch map No. III.) Scale, $1\frac{1}{3}$ miles to 1 inch.

Accompanying "Wisconsin geological survey," Vol. IV, Part VII, Pl. XVI, p. 645. Madison, 1882.

There is no date nor name of author on the map.

XII.—SOUTHERN STATES, ETC.

902 [582*a*].

1866—Daddow (S. H.). Map of the Richmond and Piedmont coal fields. (Virginia.)

Accompanying "Coal, iron, and oil; or the practical American miner," p. 395. Pottsville, Pa., 1866.

In black.

903 [582*b*].

1866—Daddow (S. H.). Dan River and Deep River coal fields. (Virginia and North Carolina.)

Accompanying "Coal, iron, and oil; or the practical American miner," p. 404. Pottsville, Pa., 1866.

In black.

904 [582*d*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Map of the great Kanawha valley and the iron regions at the head of the New River. Scale, fifty miles to an inch.

Accompanying "Coal, iron, and oil; or the practical American miner," p. 346. Pottsville, Pa., 1866.

In black.

905 [582*e*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). Map of the New River coal fields. (Virginia.)

Accompanying "Coal, iron, and oil; or the practical American miner," p. 407. Pottsville, Pa., 1866.

In black.

906 [582*f*].

1866—Daddow (S. H.) and **Bannan** (Benjamin). The Alleghany coal field in Alabama.

Accompanying "Coal, iron, and oil; or the practical American miner," p. p. 355. Pottsville, Pa., 1866.

In black.

907 [590*a*].

1871—Lesley (J. P.). Scott's mine at (*b*) on Middle Creek, Russell County.

Accompanying "The geological structure of Tazewell, Russell, and Wise counties in Virginia." Proc. Amer. Phil. Soc., Vol. XII, p. 500, Philadelphia, 1873.

Small black sketch, with lithological indications.

908 [612*a*].

1881—Crandall (A. R.). Kentucky geological survey. Elliot County. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

909 [612*b*].

1881—Fales (J. C.) and **Linney** (W. M.). Kentucky geological survey. Boyle and Mercer counties. Geology of Boyle County, by J. C. Fales. Geology of Mercer County, by W. M. Linney. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

910 [613*a*].

1881—Linney (W. M.). Kentucky geological survey. Garrard County. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

911 [613*b*].

1881—Linney (W. M.). Kentucky geological survey. Lincoln County. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

912 [613*c*].

1881—Linney (W. M.). Kentucky geological survey. Spencer and Nelson Counties. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

913 [613*d*].

1881—Linney (W. M.) and **Knott** (W. T.). Kentucky geological survey. Washington and Marion counties. Geology of Washington County, by W. M. Linney. Geology of Marion County, by W. T. Knott. Scale, 2 miles = 1 inch. (New York, 1881.)

No date nor place of publication on the map.

914 [613*e*].

1881—Proctor (J. R.). Map of Kentucky from the Eclectic geographies. Scale, natural size as 1 to 1,679,000; 26½ miles to the inch.

Accompanying "Kentucky geological survey." New series. Kentucky Bureau für Geologie und Einwanderung. Die materiellen Verhältnisse und Vortheile für Einwanderer im Staate Kentucky. Zweite Auflage. Frankfort, Ky., 1881.

Black etching and geological indications. This map was also published in the same work in English and in Scandinavian, neither of which have we been able to see.

915 [613*f*].

1881—Proctor (J. R.). Map of Kentucky from the Eclectic geographies. Scale, natural size as 1 to 1,679,000; 26½ miles to the inch.

There is no date nor place of publication on the map, but the copyright is dated 1882. The map is published separately, having some statistics printed on the back, by the Kentucky geological survey and bureau of immigration. With the exception of the geological coloring it is the same as map No. 914.

XIII.—NORTHWESTERN STATES AND TERRITORIES.

916 [636*a*].

1878—Endlich (F. M.). (Geological map of) Part of Central Wyoming. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories for the year 1878." Maps and panoramas in accompanying pocket, sheet 3. Washington, 1883.

917 [636*b*].

1878—Hayden (F. V.) and **Holmes** (W. H.). Preliminary geological map of the Yellowstone National Park. Scale, 2 miles to 1 inch, or 1 : 126,720.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories for the year 1878." Maps and panoramas in accompanying pocket, sheet 6. Washington, 1883.

918 [636*c*].

1878—Holmes (W. H.). No title. (Map showing displacements, Yellowstone valley.)

Accompanying "Report on the geology of the Yellowstone National Park." U. S. Geol. and Geogr. Surv. Territories; twelfth annual report for the year 1878. In two parts. Part II, Pl. III, p. 6. Washington, 1883.

Black etching and geological indications. The title is in the list of illustrations.

919 [636*d*].

1878—Holmes (W. H.). Sketch map of the geology of Junction valley (National Park).

Accompanying "Report on the geology of the Yellowstone National Park." U. S. Geol. and Geogr. Surv. Territories; twelfth annual report for the year 1878. In two parts. Part II, Pl. XXII, p. 42. Washington, 1883.

Black etching.

920 [636*e*].

1878—Holmes (W. H.). Distribution of Glacial boulders (National Park).

Accompanying "Report on the geology of the Yellowstone National Park." U. S. Geol. and Geogr. Surv. Territories; twelfth annual report for 1878. In two parts. Part II, Pl. XXX, p. 52. Washington, 1883.

Black etching and geological indications.

921 [636*f*].

1878—Peale (A. C.), **St. John** (Orestes), and **Endlich** (F. M.). Geological map of portions of Wyoming, Idaho, and Utah. Scale, 8 miles to 1 inch.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories, for the year 1878." Maps and panoramas in accompanying pocket, sheet 2. Washington, 1883.

922 [636*g*].

1878—Peale (A. C.). (Geological map of) Parts of Western Wyoming, Southeastern Idaho, and Northeastern Utah. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories, for the year 1878." Maps and panoramas in accompanying pocket, sheet 5. Washington, 1883.

923 [636*h*].

1878—St. John (Orestes). (Geological map of) Parts of Western Wyoming and Southeastern Idaho. Scale, 4 miles to 1 inch, or 1 : 253,440.

Accompanying "Twelfth annual report of the U. S. Geol. and Geogr. Surv. Territories, for the year 1878." Maps and panoramas in accompanying pocket, sheet 4. Washington, 1883.

924 [763*a*].

1877—Scudder (S. H.). The Tertiary lake basin at Florissant, Colorado. Scale, 1 mile to 1 inch.

Accompanying "The Tertiary lake basin at Florissant, Colo., between South and Hayden's Parks," U. S. Geol. and Geogr. Surv. Territories; twelfth annual report, for the year 1878. In two parts. Part I, p. 293. Washington, 1883.

Black etching. Reprinted, with additions and alterations, from the Bulletin U. S. Geol. and Geogr. Surv. Territories, Vol. VI, p. 279. Washington, February, 1881.

See **Scudder** (S. H.), 1881—No. 778.

INDEX OF AUTHORS AND PLACES.