A BIBLIOGRAPHY
RELATING TO THE
GEOLOGY, PALÆONTOLOGY,
AND
MINERAL RESOURCES
OF
CALIFORNIA

ANTHONY W. VOUGES
A BIBLIOGRAPHY

RELATING TO THE

GEOLGY, PALÆONTOLOGY, AND MINERAL RESOURCES

OF

CALIFORNIA.

By ANTHONY W. VOGDES, Captain Fifth Artillery, U. S. A.,

Fellow American Geological Society, American Association for the Advancement of Science; Member of the New York Academy of Sciences; also of the Georgia, Philadelphia, Chicago, and California Academies of Natural Sciences.

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1896.
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LETTER OF TRANSMITTAL.

Hon. J. J. Crawford, State Mineralogist:

I have the honor to submit this bibliography for publication by the State Mining Bureau, with the following brief remarks:

The literature relating to the natural resources of California is widely scattered, and, to a great extent, inaccessible to any one but the specialist.

The few descriptions of fossils printed in the State Geological Reports were issued nearly thirty years ago. Since that date a large number of papers on geology, palæontology, and descriptions of local mining regions have appeared, either in the transactions of learned societies or in special publications with but a limited distribution. In many cases these descriptions have been brief, and those of fossils without illustrations.

Besides these, there are many articles incorporated in the official publications of the United States, and in volumes whose very existence is almost unknown to the general reader.

I have labored to bring this mass of literature together and make it accessible to the student and general reader. Some may ask, What is the advantage of such a catalogue? But let them take up any special line of investigation, and the first thing wanted will be a list of books of reference to know what has been published on the subject.

To the compiler such compilations are dry and laborious, and many think afterward I could do better; but let all those who think so, labor to improve this catalogue.

The palæontologist has to deal with the different species under each genus. I have, therefore, included a full list of fossils under each reference, which will save the student many a weary
hour of laborious research through many volumes and transactions of learned societies.

The catalogue has been arranged under different heads, such as State geological reports, transactions of learned societies, etc., which will give the student a direct reference to the contents of different publications.

The palæontology of California differs greatly from that of the Atlantic States in the existence of an extensive bed of the Tertiary formation, with but few of the older formations, indicating that the elevation of the Pacific Coast was chiefly made since the Mesozoic age, and a great part of it as late as the Quaternary. Nearly all the coast ranges and the low foothills of the Sierra Nevada are covered with thick beds which contain fossils identical with living species, with others extinct along the Californian shores, but living farther to the north or south.

To make a complete catalogue, works on recent conchology of the Pacific Coast should be included, but the author has deemed it best to omit the most of them.

Part IV of the catalogue contains an alphabetical list of miscellaneous publications. Many of them are references to early reports on gold and other minerals, including trips to the gold fields of California. All of these are not strictly geological reports, but now and then they contain valuable references to local geology. The author regrets that he has been unable to give many notes in this part, most of the works being inaccessible.

ANTHONY W. VOGDES.

Fort Mason, San Francisco, Cal., September 1, 1896.
A BIBLIOGRAPHY

RELATING TO THE

GEOLOGY, PALÆONTOLOGY, AND MINERAL RESOURCES

OF CALIFORNIA.

PART I.

Publications of the State of California.

FIRST GEOLOGICAL SURVEY OF CALIFORNIA.

DR. JOHN B. TRASK, State Geologist.


Report of 1853, Geology of the Sierra Nevada or California Range; by John B. Trask. Sacramento, 1853. 31 pp. (2,000 copies printed.)

Report on the Geology of the Coast Mountains, embracing their agricultural resources and mineral productions, also portions of the Middle and Northern Mining Districts; by Dr. John B. Trask, State Geologist. Senate Doc. No. 14. Sacramento, 1855. 95 pp.

This report contains a description of the physical geography of the coast mountains; geology of the coast mountains; Tertiary rocks of the coast mountains; primitive rocks of the coast mountains; volcanic rocks of the coast mountains; geology of the San Bernardino Mountains; stratified rocks of the San Bernardino chain and plains of Los Angeles; extent of the infusorial group; plains of Los Angeles; artesian borings; soils and productions of Los Angeles; mineral pro-
ductions of Los Angeles; country north of the American River; mineral district of the upper Sacramento Valley; geology of the northern coast mountains; local geology of the northern coast mountains; Carboniferous limestone of the eastern part of Shasta County; Trinity County; structure of the Sacramento Valley; Tertiary rocks and other deposits of the Sierra Nevada; placer mining; quartz veins; quartz mines, with descriptions of mines, and statistics.

Report on the Geology of the Coast Mountains and part of the Sierra Nevada, embracing their industrial resources in agriculture and mining; by Dr. John B. Trask, State Geologist. Assembly Doc. No. 9, Session of 1854. 92 pp.

This report contains a description of the geology of the Monte Diablo range, Salinas Valley, from Point Pinos to the Nacimiento River, Santa Cruz Mountains; structure of the valleys of Sacramento and San Joaquin; review of the geological changes in the coast mountains and Monte Diablo range; classification of the rocks of the coast mountains and Monte Diablo range; position and relation of the volcanic rocks to the Tertiaries; volcanic rocks preceding the Tertiary era; most recent volcanic rocks of the coast mountains; changes of level and river terraces; soils of the valley Santa Clara and shores of the Bay of San Francisco; valley of the Salinas; soils of the Salinas; Pajaro Valley; Livermore Valley; mineral resources of the coast mountains; mineral districts, embracing parts of the counties of Nevada, Placer, El Dorado, and Calaveras; quartz veins, and their relative age in California; character and position of the older veins below the surface; present government of metallic veins; descriptions of mines, with list of gold mines.

Report on the Geology of Northern and Southern California, embracing the mineral and agricultural resources of those sections; with statistics of the Northern, Southern, and Middle mines; by Dr. John B. Trask. Assembly Doc. No. 14, Session of 1856. 66 pp.

This report contains a description of the physical geography lying in the coast mountains north of the Bay of San Francisco; geological structure of the Coast Mountains; mineral character of the primitive rocks of the coast mountains; soils of Petaluma County; plains west of the Sacramento River; San Bernardino; geology of Table Mountain, Tuolumne County; Carboniferous rocks of the Northern district; salines of the upper Sacramento Valley; Mammoth Mines Seventy-six, Jamison Creek; descriptions of mines, etc.; analysis of saline waters from Lick Springs, Shasta County; gold mines in operation in 1855; table of altitudes.
SURVEYOR-GENERAL REPORTS.


The tract noticed embraces an extent of the county between the Moquelimne River and Middle Fork, and the Stanislaus and North Fork, longitudinally; and latitudinally, the space between the foothills and the headwaters of the San Antonio branch of the Calaveras.

Report of a survey of a portion of the eastern boundary of California, and a reconnaissance of the old Carson and Johnson immigrant roads over the Sierra Nevada. In Annual Report of the Surveyor-General, 1856; Assembly Document No. 5, Session of 1856, pp. 91-186.

This report, by George H. Goddard, contains a few geological notes on rocks along the route.

SECOND GEOLOGICAL SURVEY OF CALIFORNIA.

J. D. WHITNEY, State Geologist.

The Geological Survey of California. An address delivered before the Legislature of California, at Sacramento, Tuesday evening, March 12, 1861, by J. D. Whitney, State Geologist. To which is appended a copy of the Act authorizing the survey. San Francisco, 1861. 50 pp.


Lecture on Geology, delivered before the Legislature of California, at San Francisco, Tuesday evening, February 27, 1862, by J. D. Whitney. San Francisco, 1862. 33 pp.


Report of the Joint Committee on the Geological Survey of the State, made to the Legislature in 1874.


Mining Statistics, No. 1. Tabular statement of the condition of the auriferous quartz mines and mills in that part of Mariposa and Tuolumne Counties lying between the Merced and Stanislaus Rivers; by A. Rémond. April, 1866. 16 pp.
The Yosemite Book. A description of the Yosemite Valley and the adjacent regions of the Sierra Nevada and Big Trees of California. New York, 1868. pp. 4 to 116. 2 maps and 28 photographs. 4to. (250 copies printed.)

Another edition. Cambridge, 1870. viii and 155 pp., and 2 maps.

Another edition. Cambridge, 1871. vii and 133 pp., and 2 maps.

Another edition, revised and corrected. Cambridge, 1874. viii and 186 pp., and 4 maps.

Geographical catalogue of the Mollusca found west of the Rocky Mountains, between latitudes 33° and 49°; by J. G. Cooper. San Francisco, 1867. 40 pp.

This catalogue was based on that published by P. P. Carpenter, Brit. Assoc. Adv. Sci., 1863, with the addition of about 130 species.


This catalogue was intended merely as a check-list and for labels; supplementing the catalogue published in 1867.

The author gives a list of the Post Pliocene, Pliocene, and Miocene fossils described in detail in "Palæontology of California."


The following fossils are described and illustrated in this volume:

**CARBONIFEROUS—**

*Foraminifera—Fusulina robusta, Meek; F. gracilis, Meek; F. cylindrica, Fischer?*

*Zoophyta—Lithostrotion mamillare ?, Castlenua; L. ? Californiense, Meek; L. sp.?; Closiophyllum Gabb, Meek.*

*Brachiopoda—Orthis (sp. undt.); Productus semireticulatus, Martin; Rhynchoconella (sp. undt.); Spirifer linearis, Martin ?; Spiriferina (sp. undt.); Retzia compressa, Meek.*

*Gasteropoda—Enamphalus Whitney, Meek.*

Triassic fossils of California and adjacent Territories; by W. M. Gabb.

*Orthoceratites Blakei, n.sp.; Nautilus Whitneyi, n.sp.; N. multicameratus, n.sp.; Goniatites bovidorsatus, Hauer; Ceratites Haidingeri, Hauer; C. Whitneyi, n.sp.; Ammonites Blakei, n.sp.; A. aussceanus, Hauer; A. Homfreyi, n.sp.; A. Billingsianus, n.sp.; A. Ramsauri?,
Jurassic fossils; by F. B. Meek.

Rhynochonella gnathophora, Meek; Terebratula sp.; Gryphora sp.; Lima? sinuata, Meek; L. recticostata, Meek; L.? cuneata, Meek; Pecten acutiplicatus, Meek; Inoceramus? obliquus, Meek; I.? rectangularis, Meek; Trigonia pandicosta, Meek; Mytilus multistriatus, Meek; Astarte ventricosa, Meek; Unicardium? gibbosum, Meek; Myacites depressus, Meek; Belemnites sp.?

Cretaceous fossils, by W. M. Gabb.

Crustacea—Callianassa Stimpsoni, n.sp.


A Bibliography of the Geology, etc., of California.

n.sp.; T. Evansi, Meek; T. Gibboniana, Lea?; Meckia, n.gen.; M. Sella, n.sp. (there is already a genus named Meckella, after Meek, so this will not stand); M. radiata, n.sp.; M. navis, n.sp.; Arca Breweriana, n.sp.; A. Horni, n.sp.; A. gravida, n.sp.; A. decurtata, n.sp.; Cucullea Mathewsoni, n.sp.; C. truncata, n.sp.; Axinsea Veatchi, n.sp.; A. (Limopsis?) sagittata, n.sp.; A. cor, n.sp.; Nucula truncata, n.sp.; Leda protea, Gabb; L. translucida, n.sp.; Limopsis transversa, n.sp.; Pecten Traski, n.sp.; P. operculiformis, n.sp.; P. Californicus, n.sp.; Lima microps, n.sp.; L. appressa, n.sp.; Plicatula variata, n.sp.; Anomia lineata, n.sp.; Ostrea Breweri, n.sp.; O. malleiformis, n.sp.; Gryphaea vesicularis, Lam.; Eogrypha parasitica, n.sp.; Terebratella obesa, n.sp.


The Appendix contains descriptions of the following fossils:


Section I. Tertiary invertebrate fossils:

Part 1.

**Echinoderms**—Clypeaster Gabbi, Rémond; Echinocrinus Breverianus, Rémond; Scutella Gabb, Rémond; Astrodapsis Whitney, Rémond; A. tumidus, Rémond.

**Asteriidae**—Asterias Rémondi, n.sp.

Part 2.

_Muriceidae_ (? Phyllonotus) pachyacricata, n.sp.; Trophon squamulifer, Cpr. (in lit.), n.sp.; Neptunia allispira, n.sp.; _H. numerosa_, n.sp.; Agasoma, n.gen.; _A. grava_, Gabb; _A. sinuata_, Gabb; _Surcula Tyroniana_, Gabb; _Nassa_ (sub.g. Cesia); _Ficus pyriformis_, n.sp.; _E. nodifer_, n.sp.; _Sinum planicostum_, n.sp.; Cancellaria gracilior, Cpr. (in lit.), n.sp.; _C. allispira_, n.sp.; _Trachita inornata_, n.sp.; _Aemecia rudis_, n.sp.; _Zirphaea Gabbi, Tryon; Siliquaria?_ Edentula, n.sp.; _Clidophora punctata_, Conrad; _Hemimactra? occidentalis_, n.sp.; _Pseudocardium_ (remarks on the genus); _Venus pertennis_, Gabb; _Caryatis Barbaresiensis_, n.sp.; _Meredix Traski, Conrad_; _Dosinia Mathewsoni_, n.sp.; _Tapes Staleyi_, Gabb; _Saxidomus gibbosus_, n.sp.; _Yoldia nasuta_, Gabb; _Y. impressa_, Conrad; _Peeten Peckhani_, n.sp.; _P. Pedroanus_, Trask; _Ostrea Veatchi_, Gabb; _Tambiosa gregaria_, Conrad.

Part 3 contains a synopsis of the Tertiary invertebrate fossils of California.

Section II. Cretaceous fossils, Part 1, continued from Vol. 1.

**Crustacea**—Callianassa Simpsoni, Gabb.

_Mollusca_—_Ptiloteuthis_, n.gen.; _P. foliatus_, n.sp.; _Belemnites impressus_, Gabb; _Ammonites Breveri_, Gabb; _A. Traski_, Gabb; _A. Hoffmanni_, Gabb; _A. Batesi_, Trask; _A. Tehamaensis_, Gabb; _A. Suaicensis_, Meek; _A. Jugalis_, n.sp.; _A. Whitneyi_, n.sp.; _T. Stolteckensis_, n.sp.; _A. fraternus_, n.sp.; _Turritiles Oregonensis_, Gabb; _Ancyloceras Rémondi_, Gabb; _A. percostatus_, Gabb; _A. l. lineatus_, n.sp.; _Halicancylus_, n.gen.; _H. ovicostatus_, Gabb; _Diptychoceras_, n.gen.; _D. levis_, n.sp.; _Baenilites occidentalis_, Meek.

_Gastropoda_—_Fusus tumidus_, n.sp.; _Neptunia (Tritonofusus) cretae_, n.sp.; _N. mucronata_, n.sp.; _Pelea tractus_, n.gen.; _P. crassus_, n.sp.; _Eryphachya_, n.gen.; _E. ponderosa_, Gabb; _E. perforata_, Gabb; _E. Hoffmanni_, Gabb; _? Neptunia gracilis_, Gabb; _Perissolax Blakei_, Conrad; _Surcula prevattenuata_, n.sp.; _S. (Surculites) sinuata_, Gabb; _S. (Surculites) inconspicuus_, n.sp.; _Heteroterna_, n.gen.; _H. trochoidea_, n.sp.; _Bela clathrata_, n.sp.; _Cordiera mitreaformis_, n.sp.; _Tritonium Californicum_, n.sp.; _T. (subgen. Trachytriton) Tejonensis_, n.sp.; _T. (T) fusiformis_, n.sp.; _Brachysphingus_, n.gen.; _B. liratus_, Gabb; _Bulla (Molopophorus) striata_, n.sp.; _Turbinella crassicosta_, n.sp.; _Mitra cretae_, Gabb; _Ficopsis Rémondi_, Gabb; _F. Horni_, Gabb; _F. Cooperi_, Gabb; _Urosyca_, n.gen.; _U. caudata_, n.sp.; _Sycodes_, n.gen.; _S. cypreeoides_, Gabb; _Euspira alveata_, Conrad; _Nevira globosa_, n.sp.; _Anapullina striata_, n.sp.; _Terebra Californica_, n.sp.; _Chemnitzia planulata_, Gabb; _Pugnellus hamulus_, Gabb; _P. (Gymnara) nanubriatus_, Gabb; _Cyprea (Luponia) Bayerquie_, Gabb; _C. (Epona) Mathewsonia_, n.sp.; _Anchura
A Bibliography of the Geology, etc., of California.

Part 2 contains a synopsis of the Cretaceous invertebrate fossils of California.

Section III contains description of the Cretaceous fossils from Mexico; by W. M. Gabb.


Part 1 of this report contains: Geology of the Coast Range, Contra Costa hills, Monte Diablo group, Mount Hamilton group, Monte Diablo group, south of Pacheco's Pass; the Peninsula of San Francisco; the coast ranges north of the Bay of San Francisco; the coast ranges south of the Bay of Monterey; the coast ranges from the vicinity of Los Angeles south; the region between the Cañada de las Uvas and Soledad Pass.

Part 2. The geology of the Sierra Nevada; the undisturbed marine sedimentary rocks along the foothills of the Sierra; the mining regions of California, embracing the great auriferous belt along the
western slope of the Sierra Nevada; the high Sierra region about the head of Kern, Kings, San Joaquin, Merced, Tuolumne, and Mokelumne rivers; the eastern slope—Mono Lake and its vicinity, Owen's Valley, the Great Basin, etc.

Appendix A. Tabular statement of the operations of the principal quartz mills; by W. Ashburner.

Appendix B. Description of fossils from the auriferious slates of California; by P. B. Meek.

The following fossils are described and illustrated in this report: *Armillaria atiraria*, Meek; *Aucella Erringtoni*, Gabb; *A. Erringtoni var. linguliformis*; *Pholadomya orbiculata*, Gabb; and *Belemnites Pacificus*, Gabb.

Contributions to barometric hypsometry, with tables for use in California. Cambridge, 1874. 88 pp. (Supplementary chapter added in 1878; pp. 89–112.)

Supplementary chapter, and practical application of the tables to the observations of the year 1870–71, and a discussion of the results obtained; by J. D. Whitney. Cambridge, 1878. 24 pp.


Map of region adjacent to the Bay of San Francisco. 2 miles to 1 inch. New York, 1873.


*Same*, 2d edition. Revised by Hoffmann & Crane, and issued by authority of the Regents of the University of California, May 12, 1874. Same scale.


The following volumes and memoirs are to be credited to the Geological Survey of California, J. D. Whitney, Director, as a
continuation, in part, of the work stopped by the Legislature in 1874; permission having been given to the late State Geologist, by the Board of Regents of the University of California, in whose hands the matter was left, to continue the publications:


This report contains—
A. Detailed description of the Monte Diablo coal fields; by W. A. Goodyear. April, 1870.
B. Additional notes on the Monte Diablo coal mines; by W. A. Goodyear. June, 1873.
D. Notes descriptive of the condition of the Corral Hollow coal mines; by W. A. Goodyear. August, 1870.
E. Chemical examination of the Pacific coals; by S. F. Peckham. I, July, 1872; II, September, 1872.
F. Examination of the Bituminous Substances in Southern California; by S. F. Peckham. Part I, Geological and Historical (June, 1866). Part II, Chemical Investigations: Section 1, February, 1867; Section 2, January, 1871.
G. Report on an examination of the Quicksilver Mines of California; by W. A. Goodyear. May, 1871.
H. Notes on the Geology of Lower California; by W. M. Gabb.


Report on the fossil plants of the auriferous gravel deposits of the Sierra Nevada; by Leo Lesquereux. Cambridge, 1878. viii and 62 pp., with 10 double plates.


This report contains descriptions of the following fossil plants: Acer evectidentatum, n.sp.; A. Bolanderi, n.sp.; Aralia angustiloba, n.sp.; A. Whitneyi, n.sp.; A. Zaddachi Heer; Betula xqualis, n.sp.; Cerocarpus antiquus, n.sp.; Castaneopsis chrysophylloides, n.sp.; Cornus Kelloggi, n.sp.; C. ovalis, n.sp.; Fagus antipofii, n.sp.; F. pseudo-ferruginea,


CALIFORNIA STATE MINING BUREAU.

HENRY G. HANKS, State Mineralogist.

Annual Report of the State Mineralogist, from June 1, 1880, to December 1, 1880. Sacramento, 1880. 43 pp.

This report contains analysis of clay from a deposit at Lincoln, Placer County.

Second Report of the State Mineralogist, from December 1, 1880, to October 1, 1882. Sacramento, 1882. 288 pp., map and 4 photographs, with appendix. (The index to this report was published separately.)

The report contains articles on placer, hydraulic, and drift mining; general geology; iron ores and iron industries of California; lumber and fuel; the occurrence of salt in California, and its manufacture; mud volcanoes; the Colorado Desert; diamonds in California; notes on mica; diatoms and diatomaceous earths; contribution to ethnology and geology of the Pacific Slope, by Philip Harvey.


This report contains a description of new mineral localities.
No. 2. Section from Merced to Coulterville and Big Oak Flat.
No. 3. Coulterville to Chinese Camp.
No. 4. Chinese Camp to Sonora.
No. 5. Occurrence of vanadates of lead at the Castle Dome mines.


First Annual Catalogue of the State Museum of California, being the collection made by the State Mining Bureau during the year ending April 16, 1881. Sacramento, 1882. 350 pages.

Third Annual Report of the State Mineralogist, for the year ending June, 1883. Sacramento, 1883. 111 pp. and 1 map.


Fourth Annual Report of the State Mineralogist, for the year ending May 15, 1884. Sacramento, 1884. 410 pp. and 2 plates.

This volume contains a general account of the agricultural, commercial, manufacturing, and other resources, interests, and industries of California, by Henry Degroot.

Also, a catalogue and description of the minerals of California as far as known, with special reference to those having an economic value. Alphabetically arranged.

Fifth Annual Report of the State Mineralogist, for the year ending May 15, 1885. Sacramento, 1885. 235 pp., 1 plate and 4 sections.

Sixth Annual Report of the State Mineralogist, for the year ending June 1, 1886. Part I. Sacramento, 1886. 145 pp. and 1 map.

This report contains an article on building-stones and building-materials in California; table of altitudes; record of strata in artesian well, Kern County; mineral springs in California; Calistoga silver mines; a general account of San Diego County, with map of Julian District. The report closes with a list of California minerals.
Catalogue of books, maps, lithographs, photographs, etc., in the library of the State Mining Bureau at San Francisco, May 15, 1884. Sacramento, 1884. 19 pp.


WILLIAM IRELAND, Jr., State Mineralogist.

Sixth Annual Report of the State Mineralogist, for the year ending June 1, 1886. Part II. Sacramento, 1887. 222 pp. Illustrated.

Contains reports on the mines of Amador, Butte, Calaveras, El Dorado, Fresno, Nevada, Sierra, and Tuolumne Counties.

Catalogue of the State Museum of California, Vol. 3, being the collection made by the State Mining Bureau from May 15, 1884, to March 31, 1887. Sacramento, 1887. 195 pp.

Seventh Annual Report of the State Mineralogist, for the year ending October 1, 1887. Sacramento, 1888. 315 pp.

This report contains an article on petroleum, asphaltum, and natural gas of California, by W. A. Goodyear; also, a report on coal, with reports on natural gas and coal in California, by A. H. Weber; petroleum and asphaltum in portions of Northern California, by A. H. Weber; building-stones of California, by Prof. A. Wendell Jackson; production of precious metals, report of Wells, Fargo & Co.; with a catalogue of fossils, by J. G. Cooper.

* Eighth Annual Report of the State Mineralogist, for the year ending October 1, 1888. Sacramento, 1888. 948 pp. Illustrated.

This report contains the mineral resources of the State, considered by counties, with reports on natural and artificial cement, building-stones, etc.; reports on Inyo, Kern, Los Angeles, San Bernardino, San Diego, and Tulare Counties, by W. A. Goodyear; Mono County, by H. A. Whiting; Ventura County, by S. Bowers; drift mining in California, by R. L. Dunn; lithology of wall rocks, by M. Attwood.

Bulletin No. 1. A description of the desiccated human remains in the California State Mining Bureau; by Winslow Anderson, M.D. Sacramento, 1888. 41 pp. and 6 plates.
Ninth Annual Report of the State Mineralogist, for the year ending December 1, 1889. Sacramento, 1890. 352 pp. and 34 plates.

This report contains an article on Santa Clara County, by A. H. Weber; the geology of San Nicolas Island, by Dr. Stephen Bowers; the auriferous gravels of California, geology of their occurrence and methods of their exploitation, by John Hays Hammond; San Diego County, by W. A. Goodyear; Santa Cruz Island, by W. A. Goodyear; stray notes on the geology of the channel islands, by Dr. L. G. Yates; the mollusca of the channel islands of California, by Dr. L. G. Yates; with reports on Los Angeles County, by E. B. Preston, and San Bernardino County, by James H. Crossman; the value of fossils as indications of important mineral products, by Dr. J. G. Cooper; with report on clays, by W. D. Johnston; etc.

Tenth Annual Report of the State Mineralogist, for the year ending December 1, 1890. Sacramento, 1890. 981 pp. Maps and plates.

This report contains a geological map of the State, with the following special reports relating to geology, viz.:
- Geology of the Mother Lode region; by H. W. Fairbanks.
- Geographical features of Placer County. pp. 414-418.
- Geology of Nevada County. p. 368.
- Geology of Trinity County. p. 695.
- Fossils of the Carboniferous period. p. 917.
- Fossils of Orange County. pp. 407-408.
- List of Cretaceous fossils in Santa Ana Mountains, Orange County. p. 400.
- Fossils of Ventura County. p. 762.
- With other reports containing geological information.

Catalogue of the State Museum of California, Vol. 4, being the collection made by the State Mining Bureau from March 31, 1887, to August 20, 1890. Sacramento, 1890. 261 pp.


Eleventh Report (First Biennial) of the State Mineralogist, for the two years ending September 15, 1892. Sacramento, 1893. 612 pp.

This report contains the following special articles on geology, viz.:
- Geology and mineralogy of Shasta County; by H. W. Fairbanks. pp. 24-53.
Notes on the geology and mineralogy of portions of Tehama, Colusa, Lake, and Napa Counties; by H. W. Fairbanks. pp. 54-75.
Geology of San Diego County, also of portions of Orange and San Bernardino Counties; by H. W. Fairbanks. pp. 76-120.
Geology in the region of Mineral Spring, Siskiyou County. pp. 451, 452; etc., etc.

J. J. CRAWFORD, State Mineralogist.

Twelfth Report (Second Biennial) of the State Mineralogist, for the two years ending September 15, 1894. Sacramento, 1894. 541 pp. Maps and illustrations.

This report contains an article on—
The auriferous conglomerate in California; by R. L. Dunn.
Preliminary report on the mineral deposits of Inyo, Mono, and Alpine Counties; by H. W. Fairbanks.
Ancient channel system of Calaveras County; by W. H. Storms.
Geology of northern Ventura, Santa Barbara, San Luis Obispo, Monterey, and San Benito Counties; by H. W. Fairbanks.


Bulletin No. 4. San Francisco, September, 1894. Catalogue of California fossils, Parts II, III, IV, and V; by Dr. J. G. Cooper. Sacramento, 1894. 6 plates. (Part I was published in the Seventh Annual Report of the State Mineralogist for 1887.)

The following new species are described and figured:

CRETACEOUS AND EOCENE FOSSILS—Teretra Wattsiana, Sereula crenatospira, S. monilifera, S. inconstans, Pleurotoma Perkinstiana, P. decipiens, Drilina ulvayana, Mangilia suturalis, Cordiera gracillima, Cancelaria Irelania, Ancilla (Oliverato) Californica, Bittium longissimum, Cerithium Fairbanksi, Potamides carbonicola, P. Davislana, Fusus suproplanus, Mitra simplicissima, Stomatia intermediua, Caliostoma Kempiana, Tornatella normalis, Bulla assimilata, Tornatina erraticia, Siphonaria capuloides, Astarto semidentata, Crassatella lomana, Cucul-
A Bibliography of the Geology, etc., of California.

Ixa Bowersiana, Corbula triangulata, Mytilus dichotomus, Crenella Santana, Megestia dubitanda, Waldheimia imbricata.


Fresh-Water Fossils—Limnea Contra costa; Planorbis Pablo anus; Anodonta (Nutalliana) lignitica; Amnicola Yatesiana; Pumna Alam edensis, Yates; P. Ventrensis, Yates; Pecten discus, Conrad; Liropecten estrellanus, Conrad.

Bulletin No. 5. San Francisco, October, 1894. The cyanide process, its practical application and economical results; by Dr. A. Scheidel. Sacramento, 1894. 140 pp.

Catalogue of West North American and many foreign shells, with their geographical ranges. For labels, exchange, and check-lists, with a supplement. By J. G. Cooper. Printed for the State Mining Bureau, April, 1894. Sacramento, 1894.


Bulletin No. 7. Showing, by counties, the mineral productions of California for the year 1894; by Charles G. Yale. Sacramento, 1895. Tabular sheet.


CALIFORNIA SENATE AND ASSEMBLY DOCUMENTS.

California Senate and Assembly Journal, 15th Session.


Mining Review for 1863. Contains an article on placer gold mining; also a notice of silver mining, of quartz gold and silver mining, and of copper, coal, iron, petroleum and asphaltum, quicksilver mines, etc. pp. 176-193.

Gives an account of California marble, p. 314.
Mining Review for 1865. Gives the extent of the mining field, variety of ore, mineral products, placer and surface diggings, quartz mining, silver mines, coal, quicksilver, petroleum, etc. pp. 315-334.
Notes on the geographical distribution and geology of the precious metals and valuable minerals of the Pacific Slope. pp. 359-364. [Prof. W. P. Blake was appointed the Geologist of the State Board of Agriculture in 1866, and made a report on the minerals of California under the above title. The report was also published in pamphlet form, with the same title. Reviewed Amer. Jour. Sci., Vol. 42, 1866, pp. 114-118.]
The same volume also contains a Report of Assembly Committee on Mines and Mining Interests, concerning the State Geological Survey; also, the Report of the State Geologist for 1863-64.

California Senate and Assembly Journal, 17th Session. No. 3.

Gold, silver, platinum, and rare metals. Sacramento. 1867.

CALIFORNIA STATE UNIVERSITY.

Report on Mount Diablo coals; by S. B. Christy. In reports to the President of the University, from the Colleges of Agriculture and the Mechanic Arts, pp. 70-74. Sacramento, 1877.


Report of Professor J. D. Whitney to the honorable the Board of Regents of the University of California. In Biennial Report of the Regents of the University of California for the years 1877-79, pp. 82-85. Sacramento, 1879.

Bulletin of the building-stones of California; by A. Wendell Jackson. California University, Berkeley, 1888. Supplement to Secretary’s report.

This paper gives notes and microscopic examinations of Santa Susanna sandstones, Henly sandstones, Campo Seco tufa, Colton marbles, etc.


This report contains a general statement of the geology of the district survey, with special chapters on the granites and eruptive rocks.


The Radiolaria (suborder Spheroidea) described in this report are of the genera Cenosphera, Carposphera, Cenellipsis, Ellipsoidium, Lithapium; suborder Discoidea, genera Tripoecystia, Hagiastrium; suborder Cyrtoidea, genera Dietyomitra, Lithocampe, and Sethocapsa.


In a few cases the supposed type differed slightly, but unessentially, from the figure. Names of such species are followed in the list by an interrogation point.

**CRETACEOUS.**

*Callianassa Stimpsoni*, Gabb; Vol. I, pl. 9, fig. 1a, 1b.

*Amm. (Hoploceras) Breweri*, Gabb; Vol. I, pl. 10, fig. 7.

*Amm. Cooperi*, Gabb; Vol. I, pl. 14, fig. 23, 23a.

*Amm. Haydeni*, Gabb; Vol. I, pl. 10, fig. 8.

*Amm. jugalis*, Gabb; Vol. I, pl. 10, fig. 5.

*Amm. Peruvianus*, Von Buch; Vol. I, pl. 10, fig. 9.

*Amm. (Hopliites) Remondi*, Gabb; Vol. I, pl. 12, fig. 14.

*Amm. (Phylloceras) ramosus*, Gabb; Vol. I, pl. 11, fig. 12, pl. 12, fig. 12b.

*Amm. suciaensis*, Meek; Vol. I, pl. 21, fig. 11.

*Amm. Tehamaensis*, Gabb; Vol. I, pl. 10, fig. 4.

*Baculites Chicoensis*, Trask; Vol. I, pl. 14, fig. 29.

*Belemintes impressus*, Gabb; Vol. I, pl. 9, fig. 2.

*Crioceras latus*, Gabb; Vol. I, pl. 15, fig. 25.

*Helicancyclus squicostatus*, Gabb; Vol. I, pl. 13, fig. 20.

*Helicoceras decline*, Gabb; Vol. I, pl. 23, fig. 200, 200a.

*Helicoceras Breweri*, Gabb (?); Vol. I, pl. 14, fig. 22.
Acteonina Californica, Gabb; Vol. I, pl. 19, fig. 63 (fragments).
Acteonina pupoides, Gabb; Vol. I, pl. 19, fig. 67.
Cheminsia planulata, Gabb; Vol. I, pl. 19, fig. 70.
Cylindrites brevis, Gabb; Vol. I, pl. 29, fig. 223.
Eripachya Hoffmanni, Gabb; Vol. I, pl. 18, fig. 41.
Fusis Averilli, Gabb; Vol. I, pl. 18, fig. 34.
Fusus Kingi, Gabb; Vol. I, pl. 28, fig. 204.
Globochonca Rémondi, Gabb; Vol. I, pl. 19, fig. 69.
Lunatia Conradiana, Gabb; Vol. I, pl. 29, fig. 219.
Lysis duplicostata, Gabb; Vol. I, pl. 21, fig. 98.
Pugnellus manubriatus, Gabb (?); Vol. I, pl. 29, fig. 220, 229a.
Ringiella pinguis, Gabb; Vol. I, pl. 29, fig. 221a.
Tessarolax distorta, Gabb (?); Vol. I, pl. 29, fig. 82, 82b.
Turritella Chicorensis, Gabb; Vol. I, pl. 21, fig. 91.
Turritella seriata-granulata, Gabb; Vol. I, pl. 20, fig. 88.
Turritella Vcetchi, Gabb (?); Vol. I, pl. 20, fig. 90.

Anatina lata, Gabb; Vol. I, pl. 22, fig. 126.
Anomia lineata, Gabb; Vol. I, pl. 26, fig. 193.
Arca decurtata, Gabb; Vol. I, pl. 31, fig. 265, 265a.
Arca gravida, Gabb; Vol. I, pl. 30, fig. 264.
Astarte tuscana, Gabb; Vol. I, pl. 30, fig. 257.
Aveilia Piochi, Gabb; Vol. I, pl. 25, fig. 173, 174.
Corbula cultiforlike, Gabb; Vol. I, pl. 22, fig. 122.
Cyprinella (Diodus) tennis, Gabb; Vol. I, pl. 23, fig. 151a.
Dosinia inhatata, Gabb; Vol. I, pl. 23, fig. 149.
Ifonomya (Panopea) concentrica, Gabb; Vol. I, pl. 22, fig. 119.
Lithophagus oviformis, Gabb; Vol. I, pl. 25, fig. 168.
Martesia ciansa, Gabb; Vol. I, pl. 22, fig. 115.
Meckia navis, Gabb; Vol. I, pl. 25, fig. 180.
Meckia radiata, Gabb; Vol. I, pl. 25, fig. 179a.
Meretrix longa, Gabb; Vol. I, pl. 23, fig. 147.
Meretrix ovalis, Gabb; Vol. I, pl. 30, fig. 251.
Mosiola cylindriformis, Gabb; Vol. I, pl. 25, fig. 167.
Mytilus pauperculus, Gabb; Vol. I, pl. 25, fig. 165.
Ostrea Breweri, Gabb; Vol. I, pl. 26, fig. 191.
Pholadomya Breweri, Gabb; Vol. I, pl. 22, fig. 123.
Pholadomya nasuta, Gabb; Vol. I, pl. 30, fig. 124.
Pinna Breweri, Gabb; Vol. I, pl. 25, fig. 175.
Tellina decurtata, Gabb; Vol. I, pl. 23, fig. 137.
Tellina monifera, Gabb (?); Vol. I, pl. 22, fig. 134, 134a.
Tellina ooides, Gabb; Vol. I, pl. 22, fig. 135, 135a.
Terebratella obesa, Gabb (?); Vol. I, pl. 26, fig. 191.
Trigonia Gibboniana, Gabb; Vol. I, pl. 25, fig. 178.
Trigonia Tryoniana, Gabb; Vol. I, pl. 25, fig. 176.
Venus (Chione) varians, Gabb; Vol. I, pl. 23, fig. 140.
Flabellum Rémondianum, Gabb; Vol. I, pl. 26, fig. 190.
Astroconia (?) petroa, Gabb (?); Vol. I, pl. 31, fig. 274, 274a.

EOCENE (Tension).

Fusus martinez, Gabb; Vol. I, pl. 18, fig. 32.
Margaritella crenulata, Gabb; Vol. I, pl. 20, fig. 74.
Neptunea supraplicata, Gabb; Vol. I, pl. 18, fig. 40.
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Neptunea gracilis, Gabb; Vol. I, pl. 18, fig. 42.
Trachytriton (Tritonium) Diegoensis, Gabb; Vol. I, pl. 18, fig. 44.
Crypta (spirorhynch) pileum, Gabb (?); Vol. I, pl. 29, fig. 233, 243b.

Arca Iorni, Gabb; Vol. I, pl. 30, fig. 263.
Avicula perleoida, Gabb; Vol. I, pl. 25, fig. 172.
Barbatia Morei, Gabb (?); Vol. I, pl. 32, fig. 286.
Dosinia gyrata, Gabb; Vol. I, pl. 23, fig. 148.

Lucina cumulata, Gabb; Vol. I, pl. 24, fig. 254.
Mysia polita, Gabb; Vol. I, pl. 30, fig. 256.
Mytilus ascia, Gabb; Vol. I, pl. 30, fig. 259.
Nexa dolabriformis, Gabb (?); Vol. I, pl. 22, fig. 125.

Pectunculus (Aneica) or, Gabb; Vol. I, pl. 31, fig. 263, 268a.
Stalagnax (Crenella) concentricum, Gabb; Vol. I, pl. 24, fig. 169.
Unio penultimus, Gabb (?); Vol. I, pl. 24, fig. 164.

MIOCENE.

Cancer Breweri, Gabb; Vol. II, pl. 1, fig. 1.
Scutella Gibbi, Gabb; Vol. II, pl. 13, fig. 66.
Echinarchinus Brewerianus, Gabb; Vol. II, pl. 12, fig. 64.
Ancillaria Fishi, Gabb (?); Vol. II, pl. 2, fig. 15.

Indet; Vol. II, pl. 3, fig. 29.
Indet; Vol. II, pl. 3, fig. 30.
Triptera elevata, Gabb; Vol. II, pl. 1, fig. 2.
Trochita ornata, Gabb (?); Vol. II, pl. 14, fig. 8.
Conchocele distuncta, Gabb; Vol. II, pl. 7, fig. 48.
Modiola multiradiata, Gabb (?); Vol. II, pl. 8, fig. 52.
Ostrea Atwoodii, Gabb (?); Vol. II, pl. 11, fig. 588.
Ostrea Tayloriana, Gabb; Vol. II, pl. 12, fig. 60.

Tapes truncata, Gabb; Vol. II, pl. 7, fig. 44.
Venus (Chione) pertenuis, Gabb; Vol. II, pl. 5, fig. 37.
Venus (Chione) Whitneyi, Gabb; Vol. II, pl. 5, fig. 40.

PLIOCENE.

Arca sulcicosta, Gabb; Vol. II, pl. 9, fig. 53.
Callista (Standella) Voyi, Gabb; Vol. II, pl. 5, fig. 41.
Gari (Psammocola) alata, Gabb; Vol. II, pl. 5, fig. 36.
Lucina (Here) Richthofeni, Gabb; Vol. II, pl. 8, fig. 49.
Zirphax dentata, Gabb; Vol. II, pl. 8, fig. 31, 31a.

QUATERNARY.

Cancellaria (Euclia) tritonidea, Gabb; Vol. II, pl. 2, fig. 18.
Clathrella Conradiana, Gabb (?); Vol. II, pl. 1, fig. 12.
Muricidea puncvaricata, Gabb; Vol. II, pl. 14, fig. 1.
Surcula (Pleurotoma) Carpenteriana, Gabb; Vol. II, pl. 1, fig. 8.
Surcula (Pleurotoma) Tryoniana, Gabb; Vol. II, pl. 1, fig. 9.
Mercenaria perlaminosa, Gabb; Vol. II, pl. 5, fig. 38.
Pecten Cerroensis, Gabb; Vol. II, pl. 9, fig. 55.
On Malignite, a family of basic, plutonic, orthoclase rocks, etc.;

Sigmogomphius Le Contéi, a new castoroid rodent from the

The Great Valley of California: a criticism of the theory of

The geology of Point Sal; by H. W. Fairbanks. Univ. of Cal.,

On some Pliocene Ostracoda from near Berkeley; by Frederick
PART II.


SENATE AND HOUSE DOCUMENTS.


The first part of this report was a reprint of the expedition of 1842. (Senate Doc. 243, 27th Cong., 3d sess., 1842.)

The report contains a few geological notes of California, and a description of the fossils, by James Hall. The specimens described are all from Muddy Creek, Wyoming.


Map of Oregon and Upper California, from the surveys of John C. Frémont and other authorities. Drawn by C. Preuss under the order of the Senate of the United States. Washington, 1848. Scale, 1:3,000,000.

Notes of a military reconnaissance from Fort Leavenworth, in Missouri, to San Diego, in California; including parts of the Arkansas, Del Norte, and Gila Rivers; by Maj. W. H. Emory, U. S. Army. Washington, 1848. 416 pp. 41 plates and map. (30th Cong., 1st sess., Ex. Doc. 41.)


Journal of the march of the Mormon Battalion of Infantry Volunteers, under the command of Lieut.-Col. P. St. George Cooke, from Santa Fé, New Mexico, to San Diego, California. Washington, 1849. 85 pp. (30th Cong., spec. sess., Senate Doc. 2.)

United States Exploring Expedition, under the command of Charles Wilkes, U. S. Navy. Vol. X, Geology, by James D. Dana. Philadelphia, 1849. pp. xii, 9, and 756. 5 maps and folio atlas of 21 plates. Only two hundred copies of this report were published. (Letter of J. D. Dana, September 2, 1890.) The author gives an account of the geology of Shasta Mountains, also that of San Francisco Bay, with a description of the fossils of Astoria, Oregon. A synopsis of this report was published in Wilkes's Western America, including California and Oregon, with maps of those regions and of "The Sacramento Valley," from actual surveys. Philadelphia, 1849.

REPORTS OF THE SECRETARY OF WAR.

Information in relation to the geology of California:

Report of P. T. Tyson upon the geology of California. 31st Cong., 1st sess., Senate Ex. Doc. 47. Washington, 1850. 74 pp. 9 sections and 1 map. This report contains articles on the geology of part of the Sierra Nevada; geology of the Coast Range; geological structure of Sacramento Valley; review of the geological changes in California; gold regions of the Sierra Nevada; the quicksilver mines; other mineral resources, and their industrial applications.


Report of Professor Frazer on minerals forwarded by General Smith; dated March 21, 1850. pp. 116-117.


This report contains: A topographical memoir accompanying maps of the Sacramento Valley, etc.; by Lieut. G. H. Derby. pp. 2-16.

Reconnoissance made by Capt. W. H. Warner of a route through the Sierra Nevada by the upper Sacramento. pp. 16-34.

Exploration of Monte Diablo, and the valley lying between this mountain and the southern shore of Suisun Bay; by Lieut. R. S. Williamson. pp. 34-37.

Geology and industrial resources of California; by Philip T. Tyson. Baltimore, 1851. xxxiv, 127, and 37 pp. 9 sections and three maps.

A republication of the above report, with an introduction and an index.

The Report of Secretary of War. 1850. (31st Cong., 2d sess., Senate Ex. Doc. 1.)


This document was published in Washington in another form by Gideon & Co., 1850. 72 pp. 8vo.

The author gives an account of the geology of the Gold Regions.


This letter is the first official report on the discovery of gold in California. Colonel Mason states that on the 12th of June, 1848, in company with Lieut. W. T. Sherman, he started on a tour through the northern part of California to visit the newly discovered gold placer region in the valley of the Sacramento. He gives a description of the country along the American River and an historical account of the mining regions. He also gives a description of the quicksilver mines near San José.
A Bibliography of the Geology, etc., of California.


Chapter V contains description of the geology of Southern California, with a section of lignite bluff near San Diego.

Notes on route from near the Tejon Pass, through western New Mexico and the Colorado to Santa Fé in the fall of 1853; by Capt. F. C. Aubrey. 12 pp. [Published by Congress in 1854 and in the California journals.]

This was the route through the gold country on the head (southern) waters of the San Juan and the upper branches of the Rio Salodo, or Salinas, of the Gila River.


Mining débris in California rivers. Letter of the Secretary of War. A final report upon the system to prevent further injury to the navigable waters of California from mining débris. 1882. 110 pp. 2 maps. (47th Cong., 1st sess., Ho. of Rep. Ex. Doc. 98.)

Mining débris in California. Letter of the Secretary of War. Report of Board of Government Engineers respecting the adjustment of the conflict between the mining and farming sections, and the rehabilitation of the mining industry in California. 1891. 124 pp. 2 maps. (Ex. Doc. 267, H. R., 51st Cong., 2d sess.)

The author gives a sketch of the California gold fields.

U. S. NAVY DEPARTMENT.

Letter from the Secretary of the Navy, inclosing report of experiments on the coal of the Pacific Coast, in compliance with a resolution of the House of March 22, 1872. (42d Cong., 2d sess., Ho. of Rep. Ex. Doc. 206.)

This report of Chief Engineer B. F. Isherwood, U. S. Navy, contains a report on the brown coal from Mount Diablo coal mines of California.

REPORTS OF EXPLORATIONS AND SURVEYS

For a Railroad from the Mississippi River to the Pacific Ocean.

PACIFIC RAILROAD REPORTS, Vol. III. Résumé of a geological reconnaissance, extending from Napoleon, at the junction of the Arkansas with the Mississippi, to the Pueblo de los Angeles, in California; by Jules Marcou. pp. 165-175.

This résumé was reprinted from the preliminary report of Lieutenant Whipple. Chap. VI, p. 40, House Doc. 129. Washington, 1855.

The report has a geological map of the route explored near the parallel of 35° north latitude, from the Mississippi River to the Pacific Ocean.


This report contains general observations upon the geology of the route:

Chapter I. San Francisco to the San Joaquin River.

II. Grayson’s Ferry, on the San Joaquin, to Fort Miller.

III. Fort Miller and the vicinity: Fort Miller to Ocoya Creek.
IV. Ocoya Creek to the Tejon.
V. Tejon to San Amedio; Cañada de las Uvas.
VI. Tejon to the Great Basin and Pass of San Francisco; Pass of San Franciscquito to the Mojave River.
VII. Mojave River, by Williamson's Pass, to San Fernando and Los Angeles; Los Angeles to San Bernardino; Cajon Pass.
VIII. San Bernardino to the Colorado Desert; Colorado Desert to Carrizo Creek and Warner's Valley.
IX. Warner's to the Colorado Desert; Colorado Desert to the mouth of the Gila; Camp Yuma and the vicinity.
X. Fort Yuma to Carrizo Creek; Carrizo Creek to San Diego.
XI. Observations on the orography and general features of relief of the middle and southern portions of California.
XII. Geology of the vicinity of San Francisco.
XIII. Tertiary formations of Ocoya Creek, Monterey, and other localities.
XIV. Observations on the Tulare Valley.
XV. Geology of the Tejon Pass and Cañada de las Uvas; section of the Sierra Nevada.
XVI. Observations on the southern part of the Great Basin.
XVII. The Colorado Desert.
XVIII. Notes on the Gold Region.
XIX. Building materials; coal; lignite; bitumen.
XX. Metals, ores, and minerals.

Appendix, Article I. Notice of the fossil fish; by Louis Agassiz. pp. 313-316. plate 1.

The following species from Ocoya Creek are described and figured:
Echinorhinus Blakei, n.sp.; Seymourus occidentalis, n.sp.; Galeocerdo productus, n.sp.; Prionodon antiquus, n.sp.; Hemipristis heteropleurus, n.sp.; Carcharodon rectus, n.sp.; Ozyrhina plana, n.sp.; O. tumula, n.sp.; Lamna clavata, n.sp.; L. orvata, n.sp.; Zygobates sp.?


From Cañada de las Uvas: Cardium linetum, n.sp.; Dosinia alta, n.sp.; Meretrix Urasana, n.sp.; M. Californiana, n.sp.; Crassatella Urasana, n.sp.; C. alta, Conrad; Mytilus humerus, n.sp.; Cardita planicosta; Natica octites, Conrad; N. gibbosa, Lea; N. alveata; Turritella Urasana, n.sp.; Volutatithes Californiana, n.sp.; Busyeon? Blakei, n.sp.; Clavatula Californica, n.sp.


From San Diego: Cardium modestum, n.sp.; Nucula decius, n.sp.; Corbula Diegoana, n.sp.; Tellina Diegoana, n.sp.; Mactra Diegoana, n.sp.; Natica Diegoana, n.sp.; Trochita Diegoana, n.sp.; Crucibulum spinosum, n.sp.

From Monterey County: Meretrix unioemeris, n.sp.; Tellina congesta, n.sp.; Modiola contracta, n.sp.

From Tulare Valley: *Meretrix Tularena*, n.sp.; *Arca microdonta*, n.sp.; *Stramonita petrosa*, n.sp.

From San Pedro: *Tellina Pedroana*, n.sp.; *Tapes diversum*, n.sp.; *Saricina abrupta*, n.sp.; *Petricola Pedroana*, n.sp.; *Schizothorax Nuttalli*, n.sp.; *Mytilus Pedroana*, n.sp.; *Penitella speltra*, n.sp. (Recent); *Pissurella crenulata*, Sow.; *Buccinum interstitiatum*.

From Carmello: *Lutraria Traskei*, n.sp.


From San Fernando: *Ostrea sp.? Pecten sp.?*

From Benicia: *Turritella biseriata*, n.sp.; *Trochus sp.?*

Appendix, Article IV. Letter from Prof. J. W. Bailey, describing the structure of the fossil plant from Posuncula River, p. 337. (This plant was from a bowlder in the bed of Kern River, west slope of the Sierra Nevada.)


This report contains the following:

Chapter I. Geology of the vicinity of San Francisco.

II. Geology of the Sacramento Valley.

III. Geology of the Western range, Sierra Nevada.

IV. Geology of Pit River and Klamath Basin.

Vol. VI, No. 2. Description of the Tertiary fossils collected on the survey; by T. A. Conrad.

The following species are described and figured in this report:

*Schizopyga Californiana*, n.sp., Santa Clara, Cal.

*Cryptomya ovalis*, n.sp., Monterey County.

*Thracia mactropsis*, n.sp., Monterey County.

*Mya Montereyana*, n.sp., Monterey County.

*M. t subsinuata*, n.sp., Monterey County.

*Arcopagia medialis*, n.sp., Monterey County.

*Tapes linteatum*, n.sp., California.

*Arca canalis*, n.sp., Santa Barbara.

*A. trilineata*, n.sp., Santa Barbara.

*A. congesta*, California.

*Axiwia Barbarensis*, n.sp., Santa Barbara.

*Mulinia densata*, n.sp., Santa Barbara.

*Dosinia longula*, n.sp., Monterey.

*D. alta*, n.sp., Monterey.

*Pecten Pabloensis*, n.sp., San Pablo Bay.

*Pallinum estrellanum*, n.sp., Estrella Valley.

*Janira bella*, n.sp., Santa Barbara.

*Ostrea titan*, n.sp., San Luis Obispo.

*Malea ringens; Dolium ringens* (Cassis), Swainson.

*Turritella altidira*, n.sp., Gatun, Isthmus of Darien.

*T. Gatunensis*, n.sp., Gatun.
A Bibliography of the Geology, etc., of California.

Triton, sp.?; Ctytherea (Meretrix) Davida; Tamiosoma gregaria, n.sp., Monterey County.
Pandora bilirata, n.sp., Santa Barbara.
Cardita occidentalis, n.sp., Santa Barbara.
Diadura crucibilifornis, n.sp., Santa Barbara.

The author discusses the age of the formation afterward called by the California geologists the Chico group. Newberry admits the Tertiary character of a part of the fossils, but is inclined to refer the formation to the Cretaceous, because of the presence in it of Ammonites, etc.

Pacific Railroad Reports, Vol. VII. Routes in California to connect with the routes near the 35th and 32d parallel and routes near the 32d parallel, between the Rio Grande and Pimas villages, explored by John G. Parke in 1854-55. Geological report by Thomas Antisell. (33d Cong., 2d sess., Senate Ex. Doc. 78. 1857.)

This report contains chapters on the physical geography of the Pacific Coast; geology of the Coast Ranges; Santa Clara Valley and Pajaro River Valley; Salinas River Valley; Santa Margarita Valley; Point Pinos Mountains and Sierra San José; Santa Maria River and Cuyama Valley; Santa Lucia Mountains; Valley of San Luis Obispo, Santa Barbara Mountains; geology of the Sierra Susanna and Monica; Plains of San Fernando; Los Angeles and San Bernardino; with the geology of the Cordilleras, etc.; Estrella River; Panza and Carrizo; Mojave River Valley; bituminous effusions; Quaternary period in California; geology of the district from San Diego to Fort Yuma, and from Fort Yuma to the Pimas villages; etc., etc.

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The author remarks that the Miocene of Santa Barbara contains a group of shells more analogous to the fossils of the Atlantic slope than to the existing shells of California; but it is evident that there must be subdivisions in the Tertiary deposits of California, which range between the Eocene and Pliocene periods, for the group of the Estrella Valley and Santa Ynez (Barbara) Mountains does not appear to contain one species, even, analogous to any in the Santa Barbara beds, and, on the contrary, some of them remind us of the existing Pacific fauna.

The author describes and figures the following new species:
From Santa Margarita, Salinas Valley: Hinnetes crassa.
From San Rafael Hills and Santa Barbara County: Pecten Meeki; P. altiplicatus; Arcopagia unda.
From Carrizo Creek, Colorado Desert, and Estrella River Valley: Pecten deserti, Conrad; Pallium Estrellanus; Spondylus Estrellanus; Arcopagia unda; Cyclas Estrellana; Ostrea panzana; Glycimeris Estrellanus; Balanus Estrellanus; Astrodapsis Antisell.
From Santa Ynez and Santa Ynez Mountains: Pecten discus; Pachydesma Inezana; Pecten magnolia; Crassatella collina; Mytilus
Inczensis; Turritella Inezana; T. variata; Natica Inezana; Tapes
Inczensis.

From San Buenaventura: Tapes montana.

From Pajaro River: Venus Pajaroana.

From Sierra Monica: Cyclus permacra; Ostrea subjecta.

From San Luis Obispo Valley: Arca Obispoana.

From Gaviota Pass: Ostrea panzana; Mactra? Gaviotensis; Trochita
costellata.

From Salinas River, Monterey County: Dosinia alta; D. longula;
D Montana; D. subobliqua.

From Ranch Triumpho, Los Angeles: Lutraria transmontana;
Axinea Barbarensis.

Report of Mr. T. A. Conrad on the fossil shells collected in
California by Wm. P. Blake, Geologist of the Expedition
under the command of Lieut. R. S. Williamson, etc.
Washington, 1855. 34 pp. (House Doc. 129.)

The fossils described in this report were afterward republished,
with figures, in the fifth volume of Explorations and Surveys for a
Railroad Route from the Mississippi River to the Pacific Ocean.

REPORTS ON MINERAL RESOURCES OF THE
STATES AND TERRITORIES WEST
OF THE MISSISSIPPI.

Report of 1867; by J. Ross Browne and James W. Taylor, U. S.

Historical sketch of gold and silver mining on the Pacific Slope;

Geological formation, etc., of Pacific Slope; by William Ashburner.
pp. 37–49. (Contains articles on the gold-mining interest of Califor-
nia; characteristics of the gold belt; northern mining district;
mining in the Sierras.)

Condition of gold and silver mining on the Pacific Coast; by J. Ross
Browne and James W. Taylor. pp. 49–85.

The copper resources of the Pacific Slope; geological formation in
which copper is found; by J. Ross Browne and James W. Taylor.
Section V, pp. 138–169.

Quicksilver mines in California; New Almaden mines, products
and exports. Section VI, pp. 170–173. (This article contains a de-
scription of the New Almaden mines, with extracts of a report by
Prof. B. Silliman, Jr., from the Am. Jour. Sci. for September, 1864.)

articles on the discovery of borax in California, etc.; reports on tin,
from the Geological Survey of California, Vol. 1, p. 180; with report on
the coal mines of the West Coast of North America, by W. M. Gabb.)

Annotated catalogue of the principal mineral species hitherto recognized in California and adjoining States and Territories; by William P. Blake. Section IX, pp. 200-215. (This article also contains notes on the geological distribution and geology of the precious metals and valuable minerals on the Pacific Slope of the United States, with a section across the Mariposas.)

History of California; by E. Randolph. pp. 268-305.

Acquisition of California; by John W. Dwinelle. pp. 306-320.


Lower California geographical and physical features; by W. M. Gabb, pp. 630-639.

So little is accurately known in regard to the geology of Lower California, that it seems desirable to include this notice and a list of the works on Lower California in this bibliography. The most important publications with regard to the geology of Lower California are:


2. Some geological notes are also found in the reports of the Mexican boundary and Pacific Railway surveys.


Miscellaneous minerals of Pacific Coast. pp. 207-293.

Agricultural resources of California. pp. 269-291.

Treasure shipments; precious metals, etc. pp. 289-298.


This includes notes on the Almaden mines and a chapter on the Mother Lode of California.


California mines; by W. A. Skidmore. pp. 13-87.


Chapter on California mines; by W. A. Skidmore. pp. 11-92.

Deep placer mining in California; by W. A. Skidmore. pp. 52-90.

List of stamp-mills in California. Chapter 16.
Publications of the United States Government. 35

Chapter on California; by W. A. Skidmore. pp. 13-140.
Diamonds in El Dorado County; by W. A. Goodyear. p. 27.

Chapter on California; by W. A. Skidmore. pp. 7-107.
Treatment of gold-bearing ores in California; by G. F. Deetken. Chapter 11.
Pliocene rivers of California; by A. W. Bowman. Chapter 16.
This report also contains a geological map of the United States, by C. H. Hitchcock and W. P. Blake; also, a map showing a portion of the mining region in Placer and El Dorado Counties, and maps of Slate Creek Basin, Sierra County.

Chapter on California; by W. A. Skidmore. pp. 13-154.
Quicksilver in California; by Chas. G. Yale. pp. 27-29.
Mining and metallurgy of quicksilver in California; by Louis Janin, Jr. Chapter 11.
The geological formation of iron deposits in California is given on p. 44, extract from James D. Hague and Clarence King's report of the Sierra Iron and Mining Company.

Chapter on California; by W. A. Skidmore. pp. 11-194.
Seam mining. p. 81.
Geology of the Sierra Nevada in its relations to vein mining, with map and tabular exhibit of results of mining; by Amos Bowman. Chapter 18.
History of relative values of gold and silver. Chapter 19.
An abstract of Dr. J. G. Cooper's paper on the discovery of lignites in Amador County and other counties in the foothills of the Sierra Nevada is given on p. 75.

Chapter on California; by W. A. Skidmore. pp. 3-131.
Quicksilver in California; by J. B. Randol. pp. 4-21.
Extinct rivers of the auriferous belt of California; by C. J. Brown. pp. 65-68.
Geology of Plumas County, with map; by J. A. Edman. pp. 109-128.
Contains chapter on California mines, by W. A. Skidmore and Chas. G. Yale; Contributions to California geology, by Melville Attwood; Auriferous gravels, by Chas. G. Yale.

Contains chapter on California mines, by A. M. Lawyer; Milling of gold quartz, by Melville Attwood; Mining machinery in California, by Chas. G. Yale; Gold from sulphurets, by Melville Attwood; Auriferous gravels of California, by John Hays Hammond; Old river-beds of the Sierra Nevada of California, by Jas. J. McGillivray.

Contains chapter on California mines, by J. R. Hardenburg; Placer gold in California, by Henry G. Hanks.

Contains chapter on California mines, by J. R. Hardenburg; Condition of mining in California, by W. A. Skidmore; Drift mining in California, by R. L. Dunn.

Contains a chapter on California mining, by A. M. Lawyer; Gold and silver mining in California, past, present, and prospective, by W. A. Skidmore; Forms in which gold occurs in nature, by W. P. Blake.

Reports of 1885, 1886, 1887, 1888; by Jos. P. Kimball, Director of U. S. Mint.
In each of these reports the chapter on California mining is by Israel Lawton.

Reports of 1889, 1890, 1891, 1892; by E. O. Leech, Director of U. S. Mint.
In each of these reports the chapter on California mining is by Chas. G. Yale, except in 1892, when it was by W. H. Dimond.

Reports of 1893, 1894, 1895; by R. E. Preston, Director of U. S. Mint.
In each of these reports the chapter on California mining is by Chas. G. Yale.
UNITED STATES COAST SURVEY.


Part 2. Geology of the principal bays and ports from Point Reyes to San Diego:

1. Punta de los Reyes. The end of the point composed of granite; form of the point; Tertiary strata; etc.

2. San Francisco. Golden Gate; character of the shores; rocks forming the points of the peninsula of San Francisco; sandstone strata uplifted; quarries; probable age; metamorphosed rock; erupted rocks and serpentine alluvial deposits; sand dunes; etc.

3. Monterey. Point Pinos; Cypress Point; San Carlos; Point Pinos of granite; Tertiary strata; fossils and infusoria; rocks of Cypress Point; granite and conglomerate; rock formation of San Carlos Bay; Point Lobos.

4. San Luis Obispo and Santa Barbara. Recent Tertiary strata; mountains, probably of sandstone; resemblance to volcanic rocks.

5. San Pedro and vicinity. Absence of mountain ridges; banks of Tertiary strata; sandstone with sun-cracks; disturbance of the strata; fossils; bitumen.

6. San Diego. Tertiary strata forming rounded hills; Tertiary strata of the slope; fossils; trappean rock.

7. Islands near the coast. Probably composed of sandstone and shale; flexures of the strata of Santa Catalina; etc.


U. S. CENSUS REPORTS.

Report on the physical and agricultural features of the State of California, with a discussion of the present and future of cotton production in the State; also, remarks on cotton culture in New Mexico, Utah, Arizona, and Mexico; by E. W. Hilgard. 10th U. S. Census Report, Vol. VI, part 2, 1884.

A general description of the geology of the State is given on page 8. The outlines of the physical geography of the State, pp. 7, 83.

Contains special reports as follows: Gold and silver, by R. P. Rothwell; Quicksilver, by James B. Randol; Coal, by John H. Jones; Petroleum, by J. D. Weeks; Natural gas, by J. D. Weeks; Asphaltum, by E. W. Parker; Stone, by W. C. Day; Precious stones, by G. F. Kunz; Infusorial earth, by E. W. Parker; Chapter on California mines, by Chas. G. Yale.

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U. S. GEOGRAPHICAL AND GEOLOGICAL SURVEYS WEST OF THE 100TH MERIDIAN.

Lieut. GEO. M. WHEELER, U. S. Corps of Engineers, in charge.


Annual report of Lieut. George M. Wheeler, for the fiscal year ending June 30, 1876.

Annual report of Chief of Engineers. 1876. Appendix JJ.


This report contains articles on the Pliocene rocks of Los Angeles; the sierra of Santa Monica; Sierra Madre; Pacoima Cañon; geology of the vicinity of the San Fernando Mission; the San Fernando sierra; asphaltum and mineral oil near San Franciscoquito Ranch; Sierra Liebre and California desert; Tertiary rocks, Cañada de las Uvas, Fort Tejon, and of California; glacial rocks of Southern California and Pike’s Peak; mountain chains and their ages; Coast Range; sierras of San Fernando and Santa Monica; hills of Los Angeles, etc.


Report on the geology of the mountain ranges from La Veta Pass to the head of the Pecos; by A. R. Conkling. *Idem*, Appendix H4, pp. 419-422.

The area examined is bounded on the north by a line drawn through Truckee, Cal., and Washoe City, Nev.; on the east by the Mount Davidson range and the Como Mountains; on the south by Job's Peak and Pyramid Peak; and on the west by the Western summit and the Truckee Rivers. Nearly all this region is covered by granites, with occasional outbursts of basaltic rocks. No fossils were found, except at Carson City, at the State Prison quarries.

U. S. GEOLOGICAL AND GEOGRAPHICAL SURVEYS OF THE TERRITORIES.

F. V. HAYDEN, U. S. Geologist, in charge.


On page 132, Dr. White describes Productus giganteus, Martin, from McCloud River, Shasta County, California.

UNITED STATES GEOLOGICAL SURVEY.

J. W. POWELL, Director.

Report for 1883–84; by Albert Williams.


The author states his conclusions in regard to the Chico and Tejon groups, and the auriferous slate series of California. He gives the name of Wallala group to a Cretaceous formation in Mendocino County.

The author discusses the age and time of uplift of the Coast Range formations and the equivalency of different Amoeba-bearing beds.

Report for 1885; by David T. Day.


References to the diabase pebbles, etc., at Steamboat Springs, Nev.; the relations of the early and the late Cretaceous of the Coast Ranges; the identity of the older strata of the Coast Ranges with the fossiliferous rocks at the southern end of the gold belt in the Sierra Nevada, and the age and history of the Chico and Tejon series, etc.

Report for 1886; by David T. Day.

Contains: Quicksilver, pp. 160–168; with reports on other minerals.

Report for 1887; by David T. Day.

Contains: Quicksilver, pp. 118–125; with reports on other minerals.

Report for 1888; by David T. Day.

Contains: Iron ores of Rocky Mountain division, by F. F. Chisolm, pp. 35–39; Quicksilver, pp. 97–107; with reports on other minerals.


This report contains an account of the geologic formations in the Lassen Peak district; auriferous slates series; carboniferous limestone; serpentinite; age of the auriferous slate district. Cretaceous—Chico beds, composition, distribution, age of the fossils, upper and lower limits. Miocene—Composition of the Miocene strata, distribution and relations, fossils found in the Miocene strata, hypsographic and climatic conditions during the Miocene. Pliocene—Upheaval of the Piedmont region, structure of the Sierras, etc.

—— Summary of the quicksilver deposits of the Pacific Slope; by George F. Becker. pp. 961–985. 3 plates.

For list of contents, see Monograph XIII.
Report for 1889–90; by David T. Day.


Report for 1891; by David T. Day.

Contains: Quicksilver, pp. 117–125; with reports on other minerals.

Report for 1892; by David T. Day.

Contains: Quicksilver ore deposits, by George F. Becker, pp. 139–168; with reports on other minerals.

Report for 1893; by David T. Day.

Contains: Quicksilver, pp. 111–118; with reports on other minerals.

Report for 1894; by David T. Day.


Fifteenth Annual Report, 1893–94.


Sixteenth Annual Report, 1894–95.

Parts III and IV contain reports on mineral resources. Part IV contains reports on the production of coal in 1894, by F. W. Parker, pp. 1–217; Petroleum, by Joseph D. Weeks, pp. 315–404; Asphaltum, by E. W. Parker, pp. 430–435; Stone, by William C. Day, pp. 436–510; with reports on other minerals.


This report contains general remarks on the geology of the coast; the Shasta group; relations of the fauna of the auriferous slates to that of the Shasta group; the geological age of the *Aucella*-bearing strata of California; remarks on certain Californian fossils which have been identified with Eastern species; etc., etc.


This report treats of the metamorphic rocks of the Coast Ranges; the non-conformity between the Knoxville beds and the Chico; identity of the Mariposa and Knoxville beds; relation of the Cascades to the Sierra and the Coast Ranges of California; Mesozoic beds; Palæozoic rocks of California; etc.


The following species are described in this bulletin: *Coralliochama*, n.gen; *C. Orcuttii*; *Trochus(Oxystele)euryostomus*; *Nerita*, sp.; *Cerithium Pillingi*; *C. totium*; *Sanctorum*; *Solarium Wallalensis*.


This bulletin contains articles on the character and distribution of the Carboniferous limestones; structure of the Sierra Nevada range; age of the faulting of the Sierra Nevada range; age of the auriferous slates; general distribution of the metamorphic, volcanic, and Cretaceous rocks; relations of the Sierra, Coast, and Cascade ranges.


This bulletin contains a definition of the Knoxville beds, geographic distribution, local developments in Tehama, Colusa, Lake, and Napa Counties, Mount Diablo, and other localities southward, etc., with descriptions of the following species:

Brachiopoda—Rhynchonella Schucherti, n.sp.; J. Whitneyi, Gabb; Terebratella Californica, n.sp.; Terebratula, sp.?


The general heading of the chapters of this work are as follows:

Chapter I. Statistics and history.
Chapter II. Notes on foreign occurrence of quicksilver.
Chapter III. Sedimentary rocks.
Chapter IV. The massive rocks.
Chapter V. Structural and historical geology of the quicksilver belt.
Chapter VI. Descriptive geology of the Clear Lake region.
Chapter VII. Descriptive geology of Sulphur Bank.
Chapter VIII. Descriptive geology of the Knoxville district.
Chapter IX. Descriptive geology of the New Idria district.
Chapter X. Descriptive geology of the New Almaden district.
Chapter XI. Descriptive geology of the Steamboat Springs district.
Chapter XII. Descriptive geology of the Oathill, Great Western, and Eastern districts.
Chapter XIII. Other deposits of the Pacific Coast.
Chapter XIV. Discussion of the ore deposits.
Chapter XV. On the solution and precipitation of cinnabar and other ores.
Chapter XVI. The origin of the ore.
Chapter XVII. Summary of results.

The report contains geological maps of the Oathill, Great Western, and Eastern districts; geological map of the Mayacamas range; with figures of foreign and American species of the genus Aucella.

Geological atlas of the United States.

The following atlas sheets of California have been issued:
- Jackson, folio 11. Washington, 1894. 4 sheets, with text.
- Lassen Peak, folio 15. Washington, 1895. 3 sheets, with text.
- Marysville, folio 17. Washington, 1895. 4 sheets, with text.
- Smartsville, folio 18. Washington, 1895. 4 sheets, with text.
- Placerville, folio 3. Washington, 1894. 4 sheets, with text.
- Sacramento sheet. Washington, 1892. 4 sheets, with text.


Contains: Iron on the Pacific Coast, p. 148; Quicksilver, pp. 387-398; Clays of the Pacific Coast, p. 475; with reports on borax, coal, copper, iron, lead, nickel, salt, tin, and other minerals.
PART III.


AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Published at Salem, Massachusetts.


The author remarks that Mr. Gabb makes two divisions of his Cretaceous strata, A and B. The former is, doubtless, Cretaceous; and the latter, I am sure, will prove to be older Eocene. *Fusus Californicus*, Gabb, the author does not recognize as "my genus Clavatula Californica." *Volutilithes Navarroensis* belongs to "my genus Rostellites." *Fusus Remondi* is a species of *Perissolax* allied to *P. penita*. *Amauropsis alveata* is a species of *Globularia*. *Fuscus mamillatus* is probably *Sycotypus modestus*, Conrad. *Perissolax* is a genus nearly related to *Sycotypus*. *Chenulitzia Spillmani* is very distinct from any species I described under that name. *Amphiura Mathewsonii* is *Amphiura ziczac*. *Dosinia elevata* is *Dosinia alta*. *D. Vivasana* is *Dione ovata*, Rogers. *Meeckia sella* is probably *Cyprina bisecta*. *M. navis* is a species of *Yobbia*. *Maetra Asburneri* is probably *M. abaria*, Conrad. *Nucula truncata*—two species are evidently confounded under this name. *Leda protexa*?—there are two species here united, neither of which is the *protexa*—one Eocene, the other Cretaceous.

A reply to these criticisms of Mr. Conrad is given by Mr. W. M. Gabb in the second volume, pp. 87-92.


The author remarks that *Volutilithes Navarroensis* has the external sculpture and form of a species of *Rostellites* found in New Jersey. *Perissolax*, Gabb, is limited to one species, but it is very different from *Busycyon Blakei*, Conrad. *Hemifusus Hornii*, H. Cooperi, and H. *Remondi*, Gabb, and *Fusus mamillatus*, Gabb, are members of my proposed genus *Ficopsis*. *Amauropsis alveata*, Gabb, is a member of Lamarck's genus *Ampullina*. *Venericardia Hornii*, Gabb, is a very different variety from the *V. planicosta*. *Hamites Vancouverensis* I believe to be an *Ancyloceras*. *Ptycoceras equicostatus* is more likely to be *Hamites*. *Neptunea curvirostris* I believe to represent an undescribed genus.

The controversy which, for a long time, was maintained between Conrad and Gabb as to the age of the Tejon rocks of California,
Publications of Scientific Societies.

referred by Conrad to the Eocene and by Gabb to represent the uppermost member of the Cretaceous (Division B of the California Reports), can be found in the following papers:


Heilprin, in his article on the age of the Tejon rocks, etc., Proc. Acad. Nat. Sci., Phila., 1882, p. 196, remarks, in a footnote, "that Conrad finally yielded his position, but he has been unable to discover the evidence of such a change of opinion in any of that author's writings."


Orthoceras Blakei, Gabb; Ammonites Nevadanus, Gabb; A. Colfaxi, Gabb; A. Billingsianus, Gabb?; Turbo regius, Gabb?; Televatus, Gabb; Pholadomya multilinata, Gabb; P. Nevadana, Gabb; Goniomya aperta, Gabb; Myacites depressus, Meek; Cardium areiformis, Gabb; Astarte appressa, Gabb; Cardinia ponderosa, Gabb; Posidonomya Blatchleyi, Gabb; Pincta, sp.; Crassianella lingulata, Gabb; Lima (Plagiostoma), sp. undt.; Monotis circularis, Gabb; Pecten acutiplicatus, Meek; Plicatula perembricata, Gabb; Spirifer obtusus, Gabb.

The author publishes the opinion that all the Jurassic deposits of the Sierra Nevada and their vicinity were probably of Triassic age. (page 5.)

THE AMERICAN NATURALIST.

Published in Philadelphia.


The author illustrates Physa humerosa, Gould; Tryonia protea, and varieties semi-fossil from Colorado Desert, California; Anodonta Californiensis, Lea; Amnicola longingua, Gould; Anondonta, Owens River, Cal.; Anodontia, Bear River, Utah.


Includes references to some geologic features and history of Santa Cruz Island, and the origin of some sandstone bowlders near Santa Barbara.

INTERNATIONAL CONGRESS OF GEOLOGISTS, AMERICAN COMMITTEE REPORTS, 1888.


Reference to the nomenclature of the Tertiary and the position of Cenozoic unconformity in California.

THE AMERICAN GEOLOGIST.

Published at Minneapolis, Minn.


Flora of coast islands of California, in relation to recent changes of physical geography; by Joseph LeConte. Am. Geol., Vol. 1, 1888, pp. 76–81.


Describes beds of volcanic ash in place, inclosing the stumps of more or less decayed trees, the nature, origin, and occurrence of which is discussed at length.

Effects of pressure of a continental glacier; by A. Winchell. Am. Geol., Vol. 1, 1888, pp. 139–143.

The views here enunciated were published in the University Argo-

naut, in March, 1886.


This is an editorial note of the glacial planing on Upper and Lower Sardine Lakes, near Young America Mine.
Notes on the geology and scenery of the islands forming the southern line of the Santa Barbara Channel; by Dr. L. G. Yates. Am. Geol., Vol. 5, 1890, pp. 43–52.


The pre-Cretaceous age of the metamorphic rocks of the California Coast Range; by H. W. Fairbanks. Am. Geol., Vol. 9, 1892, pp. 153–166.

Notes on a further study of the pre-Cretaceous rocks of the California Coast Ranges; by H. W. Fairbanks. Am. Geol., Vol. 11, 1893, pp. 69–84. plate.


This report contains notes on the Trias of Squaw Creek, the Carboniferous of the McCloud River, and the Devonian of the Sacramento River, near Kennett Station.


AMERICAN JOURNAL OF SCIENCE AND ARTS.

Published at New Haven, Conn.

1st series: Vol. 1, 1819—Vol. 50, 1845.
2d series: Vol. 1, 1846—Vol. 50, 1870.


In the author's article, "Notes on American Geology," in this journal, the author remarks: "On the coast of California Mr. Nuttall found shells of recent species two hundred feet above the sea. These are so much more remote from the axis of elevation than the Tertiary shell of New York that the uplift of the Rocky Mountains must have been far greater during the upper Tertiary period than was any part of the Atlantic chain."


The author describes and figures the following fossils, principally from cement-stone bowlders at Astoria, Oregon: Nucula devaricata, n.sp.; N. cuneiformis, n.sp.; N. abrupta, n.sp.; Mactra albaria, n.sp.; Tellina Oregonensis, n.sp.; T. obtusa, n.sp.; Loripes parilis, n.sp.; Cytherea Oregonensis, n.sp.; C. vespertina, n.sp.; Nucula penita, n.sp.; Bulina petrosa, n.sp.; Pyrula modesta, n.sp.; Fusus Oregonensis, n.sp.; Solea curtus, n.sp.

The following species were collected by the writer at Astoria, and sent to the American Museum at New York. As the list is unpublished, it may be well to include it as a note to Mr. Conrad's paper: Nucula devaricata, Con.; N. impressa, Con.; Tellina albaria, Con.; Solemya ventricosa, Con.; Pecten propatulus, Con.; Area derincta, Con.; Venus bisecta, Con.; Pectunculus nitens, Con.; Venus angustifrons, Con.; Tellina enacerta, Con.; T. arctata, Con.; Lucina acutilentea, Con.; Cardita sublenta, Con.; Terebratula nitens, Con.; Dolium petrosum, Con.; Rostellaria indurata, Con.; Fusus geniculus; Sigeretus (Lumatia) scopulosa; Teredo substratiatus; A dentalium; Nautites angulatus, Con. Besides these there are three or four species of bivalves and four of Gasteropods, undetermined, and one Brachiopod. These fossils were collected from the cement stones and argillaceous shales; all belong to one geological period, as the same species are found in each to some extent, though most are different.


On the deep placers of the South and Middle Yuba, Nevada County, California, in connection with the Middle Yuba and Eureka Lake Canal Companies; by B. Silliman, Jr. Am. Jour. Sci., 2d ser., Vol. 40, 1865, pp. 1-19.


On the naphtha and illuminating oil from heavy California tar (maltha); by B. Silliman, Jr. Am. Jour. Sci., 2d ser., Vol. 43, 1867, pp. 242-246.

The remains of a tapir occur in the auriferous gravel of Wood's Creek, near Sonora, Tuolumne County.


--- Note in Vol. 5, 1873, p. 156.


See note on p. 139, regarding California rocks.


Discusses the relation of texture in igneous rocks to the conditions under which they were cooled, etc. The author also restates his conclusions in regard to the disputed age and relations of the Washoe rocks.


A discussion of the Post Tertiary physical changes of the coast region of California, as indicated by the flora and fauna of the coast islands.


Origin and mechanism of faults, especially those of the Great Basin.


The author describes the saurian remains of two individuals from black Triassic limestone of Shasta County under the name of Shasta-saurus pacificus, n. gen. et sp. nov.

THE AMERICAN MINING GAZETTE.

Published at New York City.


ANNALS OF THE NEW YORK LYCEUM OF NATURAL HISTORY.
Published at New York City.
1st Series: Vol. 1, 1824—Vol. 11, 1876.
The author gives full notes and descriptions, but no illustrations. Out of nearly 500 species, over 100 were new; but few of them extend to California, though many of the species are found living or fossil farther north.

BULLETINS OF THE GEOLOGICAL SOCIETY OF AMERICA.
Vol. 1, 1890—Vol. 6, 1894.
Tertiary and Post Tertiary changes of the Atlantic and Pacific Coasts, with a note on the mutual relations of land elevation and ice accumulation during the Quaternary


The author places the relative age of the rocks of California, in different localities, as follows:
- Trias—American and Sailor's Cañons.
- Lower Jura—Inyo County, Cal.; Taylorville, Cal.
- Middle Jura—Taylorville, Cal.
- Upper Jura—Taylorville, Cal.; Mariposa Basin, Cal.; Colfax Basin, Cal.
The following new species of fossils are described, but not figured:

From American Cançon: *Monotis simplicata*; *M. symmetrica*.

From Sailor's Cañon: *Daonella? subjecta*; *D. böckiformis*; *D. cardinoides*; *Hemientolium? sp.?; *Panopea? sp.?; *Entolium sp.?; *Gryphxa sp.?

Upper Jura fossils of the gold belt slates: *Cardioceras dubium*, Texas Ranch, Calaveras County; *Perisphinctes virgulatiformis*, near Reynolds Ferry; *Perisphinctes sp.?*, the same; *P. filiplex?*, Quenstedt, Tuolumne River, etc.; *P. Colfaxi*, Gabb, one mile west of Colfax; *P. Mühbachi*, El Dorado County; *Ocottomistes Lindgreni*, near Colfax; *Ocotrantes denticulata*, Stanislaus River; *Belemmites Pacificus*, Gabb, Mariposa County, American Cañon; *Avicula sp.?*, Stanislaus River; *Amusium aurarium*, Meek, six miles from Copperopolis; *Aucella Erringtoni*, Meek, var. *arcuata*, Tuolumne River, etc.; *A. elongata*, Stanislaus River; var. *Elongata orbicularis*, *A. aviculiformis*, near Reynolds Ferry; var. *acuta*, six miles from Copperopolis; *A. orbicularis*, Calaveras County.


The authors give the following conclusions: That the discovery of *Coralliochama Orcuttii*, in the basal portion of the Chico beds, in the Sacramento Valley, demonstrates that the Wallala beds are only a phase of the Chico. The Shasta-Chico series is composed of the Knoxville, Horsetown, and Chico beds, which are each characterized by its own fauna. The fauna of adjacent beds, however, are so bound together by many common species that there is no paleontologic break. The Mariposa and Knoxville beds are faunally distinct and unconformable; the former Jurassic, and the latter Cretaceous.


The natural system of volcanic rocks; by F. Baron Rieht-
Francisco, 1868. 95 pp.

The following is the classification of volcanic rocks:

Order First: Rhyolite—
Family 1. Nevadite, or granitic rhyolite.
2. Liparite, or porphyritic rhyolite.
3. Rhyolite proper, or lithoidal and hyaline rhyolite.

Order Second: Trachyte—
Family 1. Sanidin trachyte.
2. Oligoclase trachyte.

Order Third: Propylite—
Family 1. Quartzose propylite.
2. Hornblendent propylite.
3. Augitic propylite.

Order Fourth: Andesite—
Family 1. Hornblendent andesite.
2. Augitic andesite.

Order Fifth: Basalt—
Family 1. Dolerite.
2. Basalt.
3. Leucitophyre.

On certain fossils from San Luis Obispo County; by Dr. Ant-

Description of Ammonites Batesi; by Dr. J. B. Trask. Proc.

Descriptions of fossil shells; by Dr. J. B. Trask. Proc. Cal.

Chuenitzia papillosa, n.sp.; Tornatella elliptica, n.sp.; Murex fragilis,
n.sp.; Fusus Barbarenis, n.sp.; F. robustus, n.sp.; F. rugosus, n.sp.

On the cause of tides, earthquakes, rising of continents, etc.; by
pp. 48–51.


The Proceedings of the California Academy of Sciences included in Vol. 1 were originally printed in “The Pacific,” a newspaper published in San Francisco. This volume was afterward published by the Academy in two editions.


For articles on same subject, see p. 190; also, p. 239.


*Lima Erringtoni; Pholadomya orbiculata; Belemnites Pacificus.*


See also "The Pacific," Vol. XVIII, No. 48; Congregationalist, September 27, 1876, and Rev. des Deux Mondes, Vol. XII, 3d ser., p. 288.


1. New locality of fossils, in the gold-bearing rocks of California.
2. Tooth of the extinct elephant, Placer County.
3. Shark teeth and other remains, Tulare County.
4. Quarry of gold-bearing rocks.

This volume contains also other short notices on fossils from Mare Island, Oregon Bar, Mariposa, etc., with mineralogical notices.


Remarks on the first discoverer of glaciers in the United States;  

Remarks on surface geology as affected by upheavals; by George  

On the coast surface and scenic geology; by Amos Bowman.  
Proc. Cal. Acad. Sci., Vol. 4, 1868-72, pp. 244-245, with  
plates.

On some of the ancient glaciers of the Sierras; by Joseph  
259-262.

Remarks on recent earthquake waves; by George Davidson.  

Notes on the geology of the coast of Oregon; by W. A. Good-  

Remarks on the auriferous gravel deposits in Placer County;  
pp. 14-16.

The abrasions of the continental shores of Northwest America,  
and the supposed ancient sea-levels; by George Davidson.  

On the artesian wells of Los Angeles County; by A. W. Chase.  

On the auriferous gravel deposits of California; by George  
145-146.

Notes on the high Sierra south of Mount Whitney; by W. A.  
180-183.

On the great lava flood of the Northwest, and on the structure  
and age of the Cascade Mountains; by Joseph Le Conte.  

Notes on some Tertiary fossils from the California coast, with a list of the species obtained from a well at San Diego, California, with a description of two new species; by W. H. Dall. Proc. Cal. Acad. Sci., Vol. 5, 1873–74, pp. 296–299.

The new species described are: *Chrysodonus Diegoensis*, *Waldheimia Kennedyi*.


There were no geological reports in Vol. 7 of the Proceedings of the California Academy of Sciences, published in 1876.


Description of Pleistocene, Tertiary, Cretaceous, Eruptive, basal granites, and structural features. The author gives a geological profile from San Diego to the Colorado Desert, pl. III.

There were no geological reports in Vol. 2, second series, of the Proceedings of the California Academy of Sciences, published in 1889.


Margaritana subangulata, n.sp.


FOREIGN SOCIETIES.


The author gives a geological sketch-map of part of Upper California, comprising the southern mines; section across Upper California from the Pacific to the Sierra Nevada, length 70 miles; Fig. 3, section of auriferous detritus at Sullivan's Gulch; Fig. 4, section of quartz vein in Carson's Hill; Fig. 5, section at Murphy's Deep Diggings.


On the hot springs of California.


Contains Tertiary coals of the North Pacific: 1. Monte Diablo, California; 2. Coos Bay, Oregon; with analysis of native and imported coals.


Report on the present state of our knowledge with regard to the mollusca of the west coast of North America; by Philip P. Carpenter. Report British Assoc. Adv. of Science, 1856, pp. 159–368.

Supplementary report on the present state of our knowledge with regard to the mollusca of the west coast of North America; by Philip P. Carpenter. Report British Assoc. Adv. of Science, 1864, pp. 517–686.

See also Smithsonian Miscellaneous Collections No. 252. Washington, 1872.


Detailed description of the micro-petrography of eighty rock specimens from the Sierra Nevada, and a discussion of the mineralogic constituents.

Mittheilungen über die Geologie Californiens; von Jules Marcou. Neues Jahrbuch für Mineralogie, Geologie, und Paläontologie, Jahrgang 1883, Bd. II, pp. 52–58.

FRANKLIN INSTITUTE JOURNAL AND AMERICAN MECHANICS' MAGAZINE.

Published at Philadelphia.

Experiments on various coals of the Carboniferous and Cretaceous periods, to ascertain their relative potential and economic vaporizations; made by Chief Engineer B. F. Isherwood, U. S. Navy, at the Mare Island Navy Yard, California, in 1871. Journal of Franklin Institute, Vol. 27, 3d ser., No. 6, June, 1872, pp. 392-402.


HUTCHINGS'S ILLUSTRATED CALIFORNIA MAGAZINE.


HUNT'S MERCHANTS' MAGAZINE.


JOURNAL OF GEOLOGY.

Published at Chicago, Ill.


Revolution in the topography of the Pacific Coast since the Auriferous period; by J. S. Diller. Jour. Geol., Vol. 2, 1894, pp. 32-54.

The author refers to the Pacific Carboniferous sea under the following headings: Revolution in Devonian time; the Carboniferous sea; Upper Carboniferous in the West; the Pawhuski limestone; interchange of life between East and West; replacement of limestone by the coal-bearing formation in Western Europe; land areas in the West; the Permian Pacific Ocean; Triassic Pacific Ocean.


The author, under "Stratigraphy," gives the following general heading to his article:

Columnar section of the metamorphic series: Sacramento formation—Kennett limestones and shales. McCloud formation—occurrence and character. Baird shales—distribution and fossils; affinities of the fauna. McCloud limestone—occurrence and character; fauna of the McCloud limestone. Pilot formation—general character of the rocks; the Carboniferous argillites; the Triassic shales and conglomerates. Cedar formation—distribution and character; Swearinger slates; Hosselkus limestone; Atractites beds; Spiriferina beds; etc. Bend formation—Jura-Trias unconformity.


THE MINING MAGAZINE.
Published at New York.

Geology of the Sierra Nevada, or California, range; by Prof. John B. Trask. Mining Mag., Vol. 1, 1853, pp. 6–23.
Publications of Scientific Societies.


Geology of the gold region of California; by Mr. Wilson. Mining Mag., Vol. 3, 1854, pp. 63-64.


MINING AND SCIENTIFIC PRESS.

Published at San Francisco.

Earthquakes in San Francisco, and specially on their direction; by J. A. Veatch. Mining and Scientific Press, March 31, 1868.

Cinnabar at Point Reyes. Mining and Scientific Press, February 27, 1875.

See also Vol. 27, 1873, p. 166; Vol. 29, Aug. 15, 1874; Vol. 31, 1875, p. 118, for articles and references to the Cinnabar of California.

NATURE.


NEW YORK ACADEMY OF SCIENCES.


Includes reference to the relations and age of the associated deposits in Lake and Napa Counties.
OVERLAND MONTHLY.

Published at San Francisco, Cal.


On mountain sculpture in the Sierra Nevada, and the method of glacial erosion; by E. S. Carr. Overland Monthly, May, 1874.

PHARMACEUTICAL JOURNAL.


PHILOSOPHICAL SOCIETY OF WASHINGTON.

Bulletins: 1880-1895.


See also Neuer Jahrb., Band 2, 1887, pp. 317-318.


This paper is an abstract of Bull. U. S. Geol. Sur., No. 33.


Remarks following paper, by J. S. Diller, on geology of Northern California.
NEWPORT NATURAL HISTORY SOCIETY.


PHILADELPHIA ACADEMY OF NATURAL SCIENCES.


Several of the species appear in the Tertiary formation of California. A list can be found in Dr. Cooper's catalogues.


Ostrea Titan; Pandora bilirata; Cardita occidentalis; Diadora crucibuliformis.

These fossils were afterward described and figured in Pacific Railroad Reports, Vol. VI, 1857.


Schizopyga Californiana; Cryptomya ovalis; Thracia mactropsis; Mya Montereyana; M. subsimnata; Arcopagia medialis; Tapes luteatum; Arca canalis; A. trilineata; A. congesta; Azinua Barbarensis; Mulinia densata; Dosinia longula; D. alta; Pecten Pabloensis; Pallium Estrellanum; Janira bella.

These fossils were afterward described and figured in Pacific Railroad Reports, Vol. VI, 1857, pp. 69–73.


The following California species are described in this paper:
- *Turbonilla aspera*, n.sp., Miocene, from Santa Barbara.
- *Modelia striata*, n.sp., Miocene, from Santa Barbara.
- *Sphenia bilirata*, n.sp., Miocene, from Santa Barbara.
- *Venus rhysonia*, n.sp., Miocene, from Santa Barbara.
- *Cardita monilicosta*, n.sp., Miocene, from Santa Barbara.
- *Morrissia Horni*, n.sp., Miocene, from Santa Barbara.


*Elotherium superb*, n.sp., from Calaveras County.


On a mastodon discovered in Contra Costa, California.


This paper gives a list of localities—fossil elephas, and fossil mastodon.


*Opalia varicostata*, n.sp.; *O. anomala*, n.sp.
Publications of Scientific Societies.


The author refers Tamiosma gregaria, Conrad, to the genus Balanus.


The author remarks (p. 213) that the rocks of the Tejon group (Cretaceous, Div. B, of the California Survey), despite their comprising, in their contained faunas, a limited number of forms from the subjacent (Cretaceous) deposits, and a few undoubted representatives of the Ammonitidae, are of Tertiary (Eocene) age.

The Eocene age of the Tejon rocks is also maintained by Prof. Jules Marcou, who made a personal examination of the region. (Rept. Chief Engineers, 1876, p. 387.)


PUBLICATIONS OF U. S. NATIONAL MUSEUM.


Specimens of Donax Californicus, Chione succinota, Olivella biplicata, and Certithidea sacrata in a semi-fossilized condition from San Luis Rey, Cal.

The author gives a table of one hundred and seven species, ten of which are extinct and ninety-seven still found recent, with a description of the following new species: Axinea profunda, Pecten expansus, P. Stearnsi, P. Hemphilli, Anomia limatula, Socalaria Hemphilli.


The author notes those of the strata of the San Diego Peninsula and those of the mainland, near the town of San Diego, etc.

Jurassic or Cretaceous beds appear to exist at Todos Santos Bay, Lower California, not far from San Diego.


From the Carboniferous of McCloud River, Shasta County, California.


Contains California localities of fossils.

SANTA BARBARA SOCIETY OF NATURAL HISTORY.


ST. LOUIS ACADEMY OF SCIENCES.

Descriptions of new fossils from the Tertiary formation of Oregon and Washington Territories, and the Cretaceous of Vancouver’s Island, collected by Dr. John Evans, U. S. Geologist, under instructions from the Department of the

These fossils were obtained from Port Orford, Willamette Valley, Coos Bay, and Vancouver's Island. The following are described but not figured: Lucina fibrosa, n.sp.; Corbula Evansana, n.sp.; Leda Willamettensis, n.sp.; L. Oregona, n.sp.; Pecten Coosensis, n.sp.; Venus securis, n.sp. From the Cretaceous of Vancouver's Island: Inoceramus Vancouverensis, n.sp.; Pinna calamitoides, n.sp.; and Pyrula glabra, n.sp.

SCIENCE.


Coal in the Chico group of California; by J. S. Diller. Science, Vol. 5, 1885, p. 43.

This announcement shows that the Chico group, like its equivalent, the Nanaimo group, is a coal-bearing bed.

The author states that a number of fossils were collected from the coal-bearing strata in Northern California, eight miles northeast of Yreka, on the road to Linkville, Oregon. He does not give a list, which is given in Dr. White's report on the Chico group.


Descriptions of evidence of an ancient drainage system in the Upper San Joaquin Valley, California.


The genesis and distribution of gold; by J. S. Newberry. School of Mines Quarterly, Nov., 1881.


Description of the lakes, their deposits and history.

WEST AMERICAN SCIENTIST.

Published at San Diego, Cal.

(C. R. Orcutt, Editor.)


Trochus (Oxystele) euryostomus, White; Cerithium Pillingsi, White; C. totium sanctorum, White; Solarium Waalensis, White; Nerita Californiensis, White.

All these fossils were described in U. S. Geol. Sur. Bull. No. 22, 1885, except Nerita Californiensis.


Fossil botany, No. 2; by Dr. L. G. Yates. West American Scientist, Vol. 3, p. 201.

Fossil botany, No. 3; by Dr. L. G. Yates. West American Scientist, Vol. 3, p. 213.

Fossil botany, No. 4; by Dr. L. G. Yates. West American Scientist, Vol. 4, p. 20.
Fossil botany, No. 5; by Dr. L. G. Yates. West American Scientist, Vol. 5, p. 39.


The gold fields of Lower California; by C. R. Orcutt. West American Scientist, Vol. 6, p. 4.

Some notes on Tertiary fossils of California; by C. R. Orcutt. West American Scientist, Vol. 6, p. 70.

Gives list of fossils at Pacific Beach, San Diego.

Some notes on Tertiary fossils of California; by C. R. Orcutt. West American Scientist, Vol. 6, p. 84.

List of fossils in a San Diego well.


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TRANSACTIONS ALBANY INSTITUTE.


Gabb, in the Paleontology of California, refers to the following species in this article: Pholadomya subelongata, Meek; Ammonites (Scaphites?) ramosus, Meek; A. Newberryanus, Meek; Baculites ovatus, Say?, for which Meek suggests the name of B. occidentalis.

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TRANSACTIONS AMERICAN INSTITUTE OF MINING ENGINEERS.

Published at New York City.


Description and sections of the region, and discussion of the lithological, stratigraphic, and structural features of the Tertiary sandstones, tuff deposits, liparite, and andesite, and their relations to the ore deposits.


Contains map of river tunnel on Mariposa Estate.


ZOE.

Published at San Francisco, Cal.

On the discovery of Proctus ellipticus, Meek, in Shasta County, California, which is referred to the Waverly group; by A. W. Vogdes. Zoe, Proceedings of Societies, Vol. 3, 1892, p. 274.

PART IV.

Publications of State Geological Surveys other than that of California.

MISSOURI GEOLOGICAL SURVEY.

(Volume VI.)


On page 187 the author states that although California is not classed as a lead- and zinc-producing State, it contains extensive deposits of lead-producing ores. These occur principally in Inyo and San Bernardino Counties, in the southwestern portion of the State. He gives the localities of the lead deposits of San Bernardino County, near Kingston Mountain, in dolomitic limestone; near Denby, in the Old Woman Mountains. He mentions a large and extensive ledge of carbonate and galena in granite and slate formations. Other localities are mentioned, both in Inyo and San Bernardino Counties, on the authority of the Ninth Annual Report of the State Mineralogist; 10th and 11th Census Reports.
PART V.

Miscellaneous Publications.

(Alphabetical List.)


—— Assaying. In three parts; in two volumes. San Francisco, 1885.

—— Leaching gold and silver ores. San Francisco, 1880.


There are some geological notes given in Chapter XII, under the heading of Gold.


This work contains a letter on the advantages of California, and also an article entitled, Why quartz companies are failures.

Anderson, Alexander D. The silver and gold of the Southwest. St. Louis, 1877.

Anderson, C. L. The natural history of Santa Cruz County, comprised in chapters on Geology, Marine and Land Botany, Fishes and Birds, for the use of students of all ages, in or out of schools, and the public generally. Oakland, 1894. 67 pp.

This book contains brief geological descriptions on the formation of mineral springs, causes of subterranean heat, with notes on the mineral springs of the Coast Range, etc.


Contains report upon the property of the California Water Company, by W. Ashburner; with report on gold mines, by E. P. Hutchins, and report of Amos Bowman.

— Report of the Sulphur Bank Quicksilver Mining Company, Lake County, California. 1876.


Barry, John D. Report on the proposed Eocene tunnel at Big Bend, on the North Fork of the Feather River, Butte County, California.

Contains map and section of rocks.

Becker, George F. The structure of a portion of the Sierra Nevada in California. 1891. tract.

Beechey, Capt. F. W. Narrative of a voyage to the Pacific and Behring's Strait, to coöperate with the Polar expedition
performed in his Majesty's ship Blossom, under the command of Capt. F. W. Beechey. London, 1831. 2 vols.

In the volume on the zoölogy of Captain Beechey's voyage (London, 1839, 4to), by Prof. Buckland, there are several references to the geology of the vicinity of San Francisco, prepared from the notes and collections of Lieutenant Belcher.

A map of the headland, embracing San Francisco Bay, accompanied this report. This is colored around the shores so as to indicate the several formations; serpentine, sandstone, and jasper rock are represented. Lieutenant Belcher collected specimens of serpentine on the west side of Angel Island. The occurrence of jasper rock is also noted.

The author, on page 174, gives the following account of the geology of California, which was the first ever published; it is given in full, on account of its value:

**Bibliography of the Geology, etc., of California.**

"The specimens collected in and near the Bay of San Francisco consist of many varieties of common serpentine, bronzite, and asbestos; clay-slate and mica slate, chlorite slate, horn-stone, brown, green, and red jasper, and rolled blocks of glassy actynolite; grey sandstone, and imperfect wood-coal. The country near the port of San Francisco is composed chiefly of sandstone, jasper, and serpentine. Wood-coal is found in slight seams on the north side of the entrance of the bay, and native silt near Santa Clara. Many of the summits of the hills are composed of jasper, forming elongated ridges, of which the general direction is north and south. This jasper is succeeded by sandstone, of a loose texture, not effervescent with acids, and disposed in every angle of stratification, occasionally it is hard and of a blue cast; it is frequently interrupted by abrupt masses of laminated jasper in wavy stratification. The appearance of the jasper, at its contact with the sandstone, is often very remarkable. The jasper appears not to have acted on or displaced the sandstone; its exterior, for eighteen inches or two feet, is usually rugged, and mixed with carbonate of lime, quartz, and indurated clay; its interior, however, presents a very beautiful wavy disposition of the component laminae, a remarkable example of which occurs at the Needle Rock, nearly opposite the fort. A view of it is engraved at Pl. III, Geology. It resembles an immense mass of sheets of paper, or bands of list, crumpled and contorted by lateral pressure. This contortion only occurs in the red jasper, the yellow being seldom (if at all) stratified, but generally separated by cracks into rhomboidal pieces. A mass of at least one hundred feet in thickness is beautifully stratified in short, wavy lines, opposite the fort near Punta Diavolo, and rests on sandstone.

"Between Punta Boneta and Punta Diavolo the sandstone is of a bluish-grey colour, containing particles of coal.

"The Island of Los Angelos is of very confused formation. Its eastern side is sandstone, with occasional jasper rocks; its western side exhibits sandstone, conglomerate, clay-slate, and serpentine; its south side, bluish earth, (apparently decomposed serpentine), and jasper beds containing red siliceous nodules, and much iron pyrites."
The superstratum of this island is almost entirely composed of the débris of sandstone and jasper rocks, a little slate and bluish earth, and betrays appearances of violence. It is about 900 feet above the level of the sea.—B.

"The cliffs of the main land, opposite the northwest shore of the Island of Los Angelos afford masses of actynolite and beds of mica slate and talc slate.

"The Island of Molate, about four miles north of Los Angelos, appears at a distance to be of a red colour, and contains much red jasper, and in a small portion of the cliff black ferruginous slate.—C.

"In the Island of Yerba Buena, the perpendicular cliffs west of the bay are formed of clay-slate at their base, whilst the superincumbent rock is sandstone, for the most part in angular masses, and without distinct stratification. The clay-slate is much contorted, arched, and wavy, assuming an east and west direction, and dipping chiefly to the south at a considerable angle. The sandstone shows itself in the point that forms the eastern part of the bay.

"The rounded hills of the peninsula on which the Presidio of San Francisco is placed, are variously formed of sandstone, loose sand, serpentine, flinty slate, and jasper. The westernmost hill, which rises from the sea between the fort and the Punta di los Lobos, is serpentine. The north declivity, on which the quadrangle of the Presidio is built, is sandstone. To the eastward of this the serpentine again forms a hill of equal if not greater height. The hill to the westward of the Mission is serpentine. That which rises to the south of it exposes a bare and scarped brow of flinty slate and jasper. Rocks of a similar nature protrude through the surface of the soil of the hills which separate San Francisco from the extensive valley of Santa Clara (Las Salinas), about six leagues to the southward. These hills are called Sierras di los Samburnos, and terminate on the north in a rocky prominence, in the harbour east of the Inlet of the Mission.

"The range of mountains, Las Sierras del Sur, which bound the above valley to the south, expose flinty slate approaching to jasper, a little northwest of Las Pulgas, and about eighteen miles east-southeast of the Mission of San Francisco. Between the Missions of Santa Clara and Santa Cruz, these mountains form four parallel ranges, the two middle ones highest (about 1,500 feet), with steep declivities; the first two valleys are narrow; the third is more extensive, leading to the fourth range, which is considerably lower than the others. The first two ridges are composed of serpentine and a jaspery rock, the third principally of sandstone and occasionally jasper, and the fourth, that nearest Santa Cruz, entirely of sandstone, the upper part being mostly decomposed into loose sand. Petrified bones of a cylindrical form were found in this cliff of sand or loose sandstone in 1827.

"Where this range approaches the road from Santa Clara to San Juan, nearly half-way, the northern declivity is covered with fragments of serpentine, and a little farther on is sandstone and flinty slate.

"In the neighbourhood of the Mission of San Juan is a sandstone conglomerate, and on the road crossing from San Juan to the plain of Monterey, is sandstone. From the interior of the range between San Juan and Monterey, the inhabitants of Las Animas had brought compact basalt, containing particles of magnetic iron ore, which
encouraged the delusive hope of rich mines. A few miles down the river Pataros, from where the road to San Juan crosses it, there are thermal springs, and sulphur in their neighbourhood. On the Santa Cruz side, near the Mission, there is said to be coal, but it has never been mined. Along the east shore of the Bay of San Francisco, for thirty-five miles east-southeast, from beyond the Island of Molate, towards San Josef and Santa Clara, the harbour is bounded generally by low alluvial soil, and only in a few places do low and rocky cliffs protrude. Near the Mission of San Josef there are some hot springs in the plain, surrounded by a verdant covering. Earthquakes are rather common, and one in 1806 so shook the building of the Mission of Santa Clara, that a new one was obliged to be erected. A few years ago, a boat belonging to a whale ship, when lying in several feet water, was suddenly thrown on the beach and left dry, and a vessel in the Bay of Monterey was suddenly and severely tossed about by the sea, and the shock was felt on the shore at the same time. At ten o'clock on the 26th December, 1827, a slight shock was felt at San Josef. The shocks are said to come along the coast from the northward, and when they are also felt at Monterey it is some minutes later.

"One was perceived at the Presidio of San Francisco in the month of April, 1827. It continued a short time, but the shaking was so slight that it injured nothing.—C."


Gives history of mining under the Spaniards, mines along the Colorado, etc. pp. 426 et seq.


Blake, W. P. Notice of remarkable strata containing the remains of Infusoria and Polythalamia in the Tertiary formation of Monterey, California. Philadelphia, 1855. tract.

— Observations on the characters and probable geological age of the sandstone formation of San Francisco. Washington, 1855. tract.


— Remarks upon the geology of California. Washington, 1855. tract.

Blake, W. P. Note upon the occurrence of fossil remains of the tapir in California. New Haven, 1868. tract.

--- Geological reconnaissance in California. New York, 1858.

--- The production of precious metals. New York, 1869.


Chapter XIX treats of the northern and southern mines.


Contains much about California.


--- Practical treatise on hydraulic mining in California. New York, 1885. 313 pp. 72 plates and illustrations.

--- Same. New York, 1887. 313 pp. maps, plates, and sections.

--- Mining débris in California rivers. 80 pp. 5 plates.

Bowman, Amos. Coast surface and scenic geology of California, 1873. 8 plates.

--- Report on the properties and domain of the California Water Company, situated on Georgetown Divide; embracing the mining, water, and landed resources of the country between the South and Middle Forks of the American River, in El Dorado County, California. San Francisco, 1874. 225 pp. maps, plates, and illustrations.

The report contains a section on vein systems, their origin and relations.

Bibliography of the Geology, etc., of California.


- August number, 1861, Vol. XXIII, No. 2, pp. 306-316.
- December number, 1861, Vol. XXIV, No. 4, pp. 1-16.
- February number, 1862, Vol. XXIV, No. 5, pp. 289-301.


The appendix gives an account of the discovery of gold mines in California.


- Chapter VIII treats of the extent and richness of the California gold fields.


- Chapter VI treats of the gold discovery in California.

Butler, A. W. Resources of Monterey County. San Francisco, 1875.

California Gold Regions, with a full account of the mineral resources, etc. New York, 1849. 48 pp.


- Description of the recently discovered petroleum region in California. New York, 1865. tract.

- Its past history; its present position; its future prospects, etc., with an appendix containing the official reports made to the Government of the United States. London, 1850. 270 pp.

On page 90 the author speaks of visiting a spot on the Alisal, near Monterey, from which considerable quantities of silver ore had been obtained. It was the first mine discovered in California, from this author's account.

— California as it is. Being a concise description of the State by counties, with memoranda of the progress of each agricultural, horticultural, mining, and other industries up to the year 1887–88, etc. San Francisco, 1888. 257 pp. map.

There are five editions of this work. The first one was published by the Daily and Weekly Call in 1882.


This article appeared in the Annual Report of Smithsonian Institution, 1859.


Castanares, Manuel. Letters from California addressed to the President of the Republic of Mexico. City of Mexico, 1845.

Manuel Castanares was a Representative in the National Congress, from the Department of California, in 1845. In his first letter, under date of March 2, 1844, the author states that gold placers were discovered in California last year, extending some thirty leagues. In his second letter, under date of September 1, 1844, the writer states: "The mining interest in California is of great importance, and I have the satisfaction of assuring your Excellency that it forms one of the most valuable resources of this Department. Besides the silver mines which are found, there are various other mines which have actually yielded metals; the gold placer especially is worthy of great attention, which extends nearly thirty leagues, was discovered lately, together with mines of mineral coal."


Chapter XXVII treats of the gold region, its locality, nature, and extent. Chapter XXX treats of the gold-bearing quartz, their locality, richness, and extent.
Cooper, A. S. The genesis of petroleum and asphalt in California. Scientific American Supplement, September 2, 1893, and December 30, 1893.

Red shales, as connected with the genesis of bitumen in California. The most important asphalt deposits in California are in Tertiary rocks. In Kern County they occur in veins and superficial beds; in Santa Cruz County, bituminous beds are mined; in San Luis Obispo County, in strata and as superficial deposits from springs; in Santa Barbara County, mixed with sand and other substances found in veins and beds, and in sandstone and shale; in Ventura County, in irregular veins and impregnating sandstone.

Cooper, Dr. J. G. Resources of San Luis Obispo County. San Francisco, 1875.

Cory, Thomas G. Gold from California. Lecture, March 25, 1856.


Comprising early history; geography, topography, and scenery; climate; agriculture and commercial products; geology, zoölogy, and botany; mineralogy, mines, and mining processes; manufactures; steamship lines, railroads, and commerce; immigration, population, and society; educational institutions and literature; together with a detailed description of each county, its topography, scenery, cities and towns, agricultural advantages, mineral resources, and varied productions.

Chapter VI treats of geology of the State; principally taken from Professor Whitney's reports, Pacific Railroad Reports, and Blake's Geological Reconnaissance in California, etc.


This work contains special articles on California artesian wells, p. 654; also, notes on the Carboniferous, Cretaceous, Jurassic, Quaternary, sub-Carboniferous, Tertiary, and Triassic formations; with references to geysers, hot springs, human relics, and terraces in California.


Contains report of borings by W. O. Davies; coal fields on the Marsh ranch, in Contra Costa County, with section showing the dip of veins.
DAVISON, SIMPSON. The discovery and geognosy of the gold deposits in Australia, with comparisons and accounts of the gold regions of California, etc. London, 1860. 36 pp.

Devoted to personal experience in the gold mines of California.

DELANO, A. Life on the plains and among the diggings. Being scenes and adventures of an overland journey to California, with particular incidents of the route, etc. Auburn and Buffalo, 1854. 384 pp.

Chapter XXVII treats of the resources of California, mineral wealth, etc.


This is an historical account of the settlement of California.


The author gives an account of the discovery of gold in California, with a brief history of previous accounts of gold mentioned by writers before 1848.


These mines are south of Washoe, on the eastern slope of the Sierra Nevada, and partly in California.


The author gives passing references to mining, with illustrations.


Chapter III treats of the climate and mountain chains.
Chapter IV treats of the auriferous regions of California.

Feuchtwanger, Dr. Louis. Valuable mining tables for ascertaining the weight of a cubic foot of any ore, metal, etc. (In California Farmer, Vol. 29, No. 14, April 9, 1868. Also published as broadside.)


Foster, G. G. The gold regions of California. Being a succinct description of the geography, history, topography, and general features of California: including a carefully prepared account of the gold regions of that fortunate country, prepared from official documents and other authentic sources. New York, 1848. 80 pp. and map.


Livre 3, Chap. I, treats of the geology.

Frémont and Emory. Notes of travel in California, comprising the prominent geographical, agricultural, geological, and mineralogical features of the country; also the route to San Diego, in California, including parts of the Arkansas, Del Norte, and Gila Rivers. Dublin, 1849. 311 pp.


Chapter XIII treats of the mineralogical and other characteristics of gold, etc.

Geology of California, the supply of silver and gold. tract. 19 pp. (N. Amer. Rev., Vol. 75, 1852, p. 277.)

Gilpin, William. The central gold region; the grain, pastoral, and gold regions of North America, with some new views of its physical geography; and observations on the Pacific Railroad. Philadelphia, 1860. 194 pp. maps.
Gold mines and mining in California. A new gold era dawning on the State; progress and improvements made in the business; perfected methods; progress and machinery; vast extent of auriferous territory; rich and varied character of deposit; a country abounding with elements of success; grand field for the profitable investment of the world’s surplus capital. San Francisco, 1885.

Under the general heading of Hydraulic Mining, pp. 63-82, the author gives a few geological notes on the Pliocene rivers. On p. 333, a short account of the auriferous deposits peculiar to California. The Gold Bluffs and beaches is given, with a description of those of Humboldt County.


The part relating to California was republished, with additional notes and corrections, in the Seventh Annual Report of the State Mineralogist.


Hanks, Henry G. Address of the President of the California State Geological Society. Daily Alta, January 8, 1877.


These two papers were issued in pamphlet. They contain a list of private owners of mineral collections; also, notes on diatomaceous earth of the Pacific Coast.


— Coal and iron interest of the Pacific Coast. San Francisco, 1888. tract.

— Notes on mica. San Francisco, 1882. tract.

— The deep placers of California. In Mining and Scientific Press, 1890.

HART, ALBERT. Mining statutes of the United States, California, and Nevada. San Francisco, 1877. 183 pp.

HASTINGS, L. W. A new description of Oregon and California, containing complete descriptions of those countries, together with the Oregon treaty and correspondence, and a vast amount of information relating to the soil, climate, productions, rivers and lakes, and the various routes over the Rocky Mountains; also an account, by Col. R. B. Mason, of the gold region, and a new route to California. Cincinnati, 1849. 168 pp.


HITTELL, JOHN S. The resources of California, comprising agriculture, mining, geography, climate, commerce, etc., and the past and future development of the State. 5th edition, with an appendix on Oregon, Nevada, and Washington Territory. San Francisco, 1869. 504 pp.

The first edition of this work was published in 1862. Chapter III treats of geology. There is also a chapter on mining.


HOLLAND, CHARLES. Mines and mining. In the Coast Review, 1873, p. 73.

HUSE, CHARLES E. Sketch of the history and resources of Santa Barbara city and county. Santa Barbara, 1876.


— Another edition, to which is added a tourist guide to the Yosemite Valley. New York, 1876. 292 pp. 100 illustrations.

Jackson,—. Map of the mining districts of California. 1851. Colored map, 18 x 22 inches.

The appendix to this map contains 16 pages.


Johnson, T. T. Oregon and California, or sights in the gold region and scenes by the way. New York, 1849. 290 pp. (Also published New York, 1850. 324 pp.)

Chapters XXVII and XXVIII treat of the gold regions, volcanic formations of California, etc.

The first edition was published in 1849. A second edition was published in April, 1850, with the addition of eight new chapters, viz., Chapters VI, XXV, XXVI, XXVII, XXVIII, XXIX, XXX. There were no illustrations in the first edition.


Kneeland, S. Wonders of the Yosemite Valley and of California. 97 pp. 2 maps. 10 photos.


— Nevada and California processes of gold and silver extraction.


This work is of special interest to the student of California geology, containing many references to the geology of the State. We note an article on auriferous veins, given on p. 237; also, Quaternary period on the western side of the continent, p. 526.

Levasseur, R. La question d'or, les mines de Californie et d'Australie, les anciennes mines d'or et d'argent. Paris, 1858.


The second part of this book treats rather extensively of the placer mines, where they were located, how worked, etc. pp. 80 et seq.

Lock, Alfred G. Gold; its occurrence and extraction, etc. London, 1882. 1229 pp.

The description of the California gold fields is given on pp. 129-154.

Macfarlane, James. The coal regions of America; their topography, geology, and development; with a colored geological map of Pennsylvania, a railroad map of all the coal regions, and numerous other maps and illustrations. Third edition, with a supplement for the year 1875. New York, 1877. 697 pp., with maps, etc.

Chapter XXX treats of the Pacific Coast region. A description of the Mount Diablo coal field is given on pp. 563-567, with analyses of the coal.


The author remarks on p. 44: “In California, the Cretaceous is limited to the northwest corner of the State, and occupies a small area west of Mount Shasta. The Geological Survey of California, directed by Mr. J. D. Whitney, has called Cretaceous all the Eocene of Fort Tejon and Chico Creek.”

—— 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. Zurich, 1858. 144 pp. 7 plates and 2 geological maps.

This work contains:
Chapter I. Résumé of a geological reconnaissance extending from Napoleon, at the junction of the Arkansas with the Mississippi, to the Pueblo de los Angeles, in California. The following Californian fossils are described: Fossils of the Tertiary rocks—Ostrica Virginica, var. Californica, Colorado Desert; Spirifer striatus, Mart., Shasta County, California.

Chapter V. On the geology of the United States and British Provinces of North America. Geological map of North America. (Extract from Dr. Petermann's Geographischen Mittheilungen, Heft. 6, in 4to. Gotha, 1855.) Contains a notice of the California Desert, or Great Basin, the Cascade Range, the Coast Range.


Chapter VII. On the gold of California. (Extract from Bibliothèque Universelle de Geneve. Février, 1855.)

Mariposa Gold Company Reports, by Garnet and Wakeley. 1863. 81 pp. col. map.


This is an account of three years in California. Refers to the gold diggings on American River and other places, on p. 210 et seq.


Memorial of the New Idria Mining Company, in the matter of the Panoche Grande Rancho. 1867. 16 pp.
Mines and Mining in El Dorado County. The mineral belt, its slates and ores; deep mining, principal mines, etc. San Francisco, 1882. 14 pp.


This author states (Vol. I, p. 489) that a vein of gold-bearing quartz was worked near the Mission of San Fernando by M. Baric in 1843.

According to De Mofras, the gold of the San Franciscquito Rancho was first explored by M. Charles Baric. He gives its distance in the mountains as six leagues to the northward of the Mission of San Fernando, and fifteen leagues from Los Angeles. He further states: “This vein has an extent of six leagues, following the direction of the ravine where it is situated. The gold is found near the surface of the soil, and some pieces weighed two or three drachms.” This description would lead one to the opinion that the deposit was a placer one and not a vein, although he uses the word filon.

According to De Mofras, silver ores occur about two leagues north-west of Cahuenga Rancho, and were not worked for want of mercury. He further observes that the Indians often bring in from the mountains, grains of copper, fragments of opal, and pieces of galena. Mines of gold and silver are also said to have been found about fourteen leagues from San Diego. They were once worked by a man from Guanajuato.

There is a notice of the bitumen near Los Angeles on p. 337, vol. 2. The author states: “Two leagues to the southeast of Los Angeles there are four great sources of asphaltum, situated on a level with the earth in a vast prairie. These springs open in the middle of little pools of cold water, while the bitumen possesses a higher temperature. This water has a mineral taste, which, however, does not prevent animals from drinking it. At sunrise the orifices of these springs are covered by enormous bubbles of asphaltum, often being more than a yard high, and looking like soap bubbles.”


This work is said to be a very valuable essay on this subject.


The author notes the California gold field on p. 470. He remarks in conclusion: “1. That, looking to the world at large, the auriferous veinstones in the lower Silurian rocks contain the greatest quantity of gold; 2. That where certain igneous eruptions penetrated the Secondary deposits, the latter have been rendered auriferous for a limited distance only beyond the junction of the two rocks; 3. That the general axiom before insisted upon remains: that all Secondary and Tertiary deposits (except the auriferous detritus in the latter) not so specially affected never contain gold.”


Contains notice of gold mining, with a few geological notes.


The mines of this company are situated in Butte County, on the west branch of the Feather River. The report contains reports and sections, by J. H. L. Tuck and R. H. Stretch, on the old Pliocene river-beds of California, with sections of the west branch of Feather River, Butte County, California.

Oregon and California: Account of gold regions, methods of testing gold, etc. 1849. 76 pp. col. map.

Pacific Coast Petroleum Company lands in San Luis Obispo County. 1865. 15 pp.


Contains a report by Dr. C. C. Parry, geologist and naturalist to the Survey, on the mineral districts of Central and Western Arizona and Southern California.
Pfeiffer, E. J. Sketch-map of the Forest Home and Willow Springs Copper Mining District, Amador County. San Francisco, 1864.


—— Gold mining and gold discoveries made since 1851. London, 1862. tract.

—— The mining and metallurgy of gold and silver. London, 1867. tract.

Phillips, John S. Explorers and assayers’ companion; rocks, veins, testing, and assaying. 2 vols. San Francisco, 1879.


A sketch of the general geological features of California is given on pp. 48-57; of mines and mining, on pp. 85-108.


Ramos, J. M. Informe relativo a los Trabajos ejecutados por la comision exploradora de la Baja California. Mexico, 1886. 222 pp. maps and geological sections.


Contains small sketch-map in black, showing Tertiary hills.


Chapter XIX treats of the gold regions. It also contains the official report of Colonel Mason, etc.

Robinson, Fayett. California and the gold regions, with a geographical and topographical view of the country, its
Miscellaneous Publications.

mineral and agricultural resources, prepared from official and other authentic documents; with a map of the United States and California, showing the routes of the U. S. mail packets to California; also the various overland routes. New York, 1849. 137 pp.

Chapters I and II contain reports of the gold mines, with early accounts of the existence of gold in California.
This book also contains a synopsis of Mr. Larkin's and Colonel Mason's reports.


Contains a chapter on gold mining, and references to other minerals; etc.

Seymour, E. S. Emigrants' guide to the gold mines. Chicago, 1849.


Silliman, B. Petroleum region in California. 1864. 21 pp., with one plate.


—— On petroleum in California. National Intelligence, February 7, 1866.

Contains Cartes des gites miniers des États de la Californie et Nevada.
SIMPSON, Henry J. The emigrant's guide to the gold mines. New York, 1848.


This book is a narrative of the author's trip to California. There is very little about the mines, except on page 53, where he gives a short description of the placers on the American River.


Stewart, W. M. Lecture on the mineral resources of the Pacific States. New York, 1865.


This work is in the shape of a journal. On page 157 the author gives an account of mines, etc.


In the appendix there is a report of Hon. T. Butler King, on the metallic and mineral wealth of the State. pp. 201-247.

Taylor, R. C. Statistics of coal. The geographical and geological distribution of mineral combustibles or fossil fuel; including, also, notices and localities of the various mineral bituminous substances employed in arts and manufactures. Illustrated by maps and diagrams, etc. Philadelphia, 1848.

Under the heading of Upper California, the author states: "In the spring of 1847, a new coal mine was discovered near San Luis Obispo, N. Lat. 35°. There are now three mines within three hundred miles of Monterey. Asphaltum and petroleum occur abundantly in Western California."


Notes a report of Dr. Le Conte on the discovery of coal, 12 miles north of San Diego, in 1851.

**The Piute Company of California and Nevada;** organized April 13, 1869, incorporated June 30, 1870. San Francisco, 1870. 23 pp. 21 plates, and map.

This report contains excellent maps of the mining region, in San Bernardino County, California, and the adjoining Yellow Pine District, in Nevada. A few geological notes are given in the descriptions of the different mines.


**Thornton, J. Quinn.** Oregon and California in 1848, with an appendix including recent and authentic information on the subject of the gold mines of California and other valuable matter of interest to the emigrant, etc. New York, 1849. 2 vols.

The appendix to Vol. 2, pp. 267-379, contains an account of the gold region of California, which is principally a copy of the official reports made in 1848.

**Trask, Dr. John B.** Earthquakes in California from 1800 to 1863. San Francisco, 1864. 26 pp.

Dr. Trask also published several articles on the same subject in the Proceedings of the California Academy of Sciences.

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Topographical map of the mineral districts of California, being the first map ever published from actual survey. San Francisco, 1853.


This pamphlet was issued in three editions.


These mines are located about two and one half miles from Santa Rosa. The report gives several analyses of the coal, by D. K. Tripp.

This book contains a chapter on the topography of California, with notes on the gold mines and geology of gold section.


Upham, Samuel G. Notes of a voyage to California via Cape Horn; also, scenes in El Dorado, 1849 and 1850. Philadelphia, 1878. 594 pp.


Dr. Veatch discovered borax at Borax Lake, Lake County, in 1856.


Wasson, Jos. Bodie and Esmeralda. Being an account of the revival of affairs in two singularly interesting and important mining districts, including something of their past history, and the gist of the reports of Profs. Benj. Silliman and W. P. Blake, the late J. Ross Browne, R. H. Stretch, State Mineralogist, and H. R. Whitehill; also, detailed descriptions of mines most developed, tunnels, mills, etc. San Francisco, 1878. 60 pp.


Werth, John J. A dissertation on the resources and policy of California: minerals, agriculture, and commerce, including a plan for the disposal of the mineral lands. Benicia, 1851. 87 pp.

Weston, S. Four months in the mines of California. Providence, 1854.

Whitney, J. D. The metallic wealth of the United States described and compared with that of other countries. Philadelphia, 1854. 510 pp.

An account of the gold, with the geology of this region, in California, is given on pp. 134-149.


The appendix contains a letter from Prof. Edward Hitchcock on the gold mines of California.

Wright, G. F. The Ice Age in North America, and its bearings upon the antiquity of man, by G. Frederick Wright; with an appendix on the probable cause of glaciation, by Warren Upham. New York, 1889. 622 pp. maps and many illustrations.

The author notices the existing glaciers of California, ancient glaciers, the terminal moraines of California, the pre-historic man in California, ancient river-beds, etc.


Notes on the distribution of gold throughout the world, including Australia, California, and Russia. London, 2d edition, 1851; 3d edition, 1853.

Geographical and mineralogical notes to accompany Wyld’s map of the gold regions. London, 1849.

Yale, Gregory. Legal titles to mining claims and water rights in California. San Francisco, 1867. 452 pp.

This report gives the history of early mining legislation in the United States, and especially that of California.
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