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THE
MAPS, PLANS AND SKETCHES
OF
HERMAN EHRENBERG
A CARTO-BIBLIOGRAPHY

DIANE M. T. NORTH
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California Map Society



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DIANE M.T. NORTH

ABOUT THE AUTHOR. . .

Diane (Rose) North is a Ph.D candidate at the University of California, Davis, in U. S. History, with a specialization in the American West. She is a co-founder of the California Map Society and the author of *Samuel Peter Heintzelman and the Sonora Exploring and Mining Company* (University of Arizona Press, 1980), and articles in *Arizona and the West* and *Prologue*. Prior to coming to California, Ms. North worked as a museum administrator and historic preservation specialist for a number of cultural agencies, including the National Portrait Gallery, the Advisory Council on Historic Preservation, and the North Carolina Division of Archives and History.

INTRODUCTION

Herman Vollrath Ehrenberg (1816 - 1866), a German-born cartographer, surveyor and mining engineer, first came to the United States in 1834. For several decades he traveled throughout the western U.S., Hawaii, and Mexico, making maps, plans and sketches that enhance our knowledge of the exploration and settlement of the American West.

He drew maps for citizens wishing to survey new townsites, for government officials in need of details about military reconnaissance, transportation routes, and Indian activities, and for miners looking for mineral riches. Some of his maps are landmarks in American cartography, while others are of interest for their local or regional character or because of the man and the age.

Shortly after arriving in the U.S., he risked his life in the struggle for Texas' independence from Mexico and dramatically survived the massacre at Goliad in 1836. Returning to Germany, he wrote a popular book about his adventures; but, by 1845, had crossed the continent to the Oregon Territory and had sailed from the Columbia River to the Sandwich Islands. There he drew a crude street plan of the town of Honolulu. In 1847, Ehrenberg volunteered as a scout and soldier and prepared a military map of La Paz, Lower California, when U.S. and Mexican troops were fighting each other. Once gold was discovered in California, Ehrenberg headed north where he sketched street plans of the mission town of San Juan Bautista, and of the cities of San Francisco and Sacramento, and made several maps of the Klamath River gold region. Journeying south to the Arizona-Mexico border in 1854, he crafted the first private map of the newly acquired Gadsden Purchase. This important map, and subsequent versions, is rich in detail.

For the next decade Ehrenberg remained in the Southwest, working as a mining engineer and metallurgist, writing articles for mining journals, promoting mining companies, the organizations of new towns and the establishment of the Territory of Arizona, and drawing maps of the silver regions and of roads. He died very much as he lived - in 1866 he was murdered on his way back to Arizona from San Francisco. The year before he had written: ". . . the progress of Arizona, is a matter of pride with me, as one of the oldest pioneers, and first one, who by successive Surveys and mapping gave some definite idea of the Geography and Topography of the Country."*

*National Archives and Record Service (NARS), RG 75, Records of the Bureau of Indian Affairs, LR, Arizona Superintendency, (E89), Letter of Herman Ehrenberg, San Francisco, Sept. 25, 1865 to the Commissioner of Indian Affairs. For further information, see Diane (Rose) North, "The Maps Plans and Sketches of Herman Ehrenberg", *Prologue: The Journal of the National Archives*, Fall, 1977, Vol. 9, No. 3, pp. 162 - 170.

Note: The format for this carto-bibliography conforms to that described by Herbert George Fordham, "Descriptive Catalogues of Maps: Methods of Arrangement", in *Studies in Carto-Bibliography*, (Oxford, 1914), pp. 92 - 103. Height precedes width measurements. Known depositories are listed at the end of each entry. Special thanks goes to Philip Hoehn, University of California, Berkeley, for his kind assistance and fine attention to detail.

**THE MAPS, PLANS, AND SKETCHES
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HERMAN EHRENBERG:**

A CARTO-BIBLIOGRAPHY

1. 1845. "Honolulu." [Plan of the town of Honolulu, Oahu, Sandwich Islands.] Wood engraving, [ca. 8 x 13 cm.] Orientation (north) toward upper left. Double border. In the bottom left appears the name "Honolulu." Streets are unnamed, although numbers 1 through 27 correspond to an accompanying reference key. Shoreline is delineated. This crude plan is printed in *The Friend, a Semi-Monthly Journal, Devoted to Temperance, Seamen, Marine and General Intelligence*, Vol. III. No. XIX., Honolulu, Oahu, S.I., October 1, 1845, p. 145, cols. 2 and 3. These localities are designated: "1 PALACE; 2 Fort, and residence of His Ex. Gov. Kekuanaoa; 3 King's Chapel, (or Rev. R. Armstrong's Church.); 4 Roman Catholic Chapel, (or Rev. Abbe Magret's); 5 Native Church, (or rev. L. Smith's); 6 Seamen's Chapel, (or Rev. S. C. Damon's.); 7 Young Chiefs' School, (Mr. Cook, Principal.); 8 Mansion House, (Carter & Thompson.); 9 Government Offices; 10 Government Printing Office; 11 Oahu Charity School, (Mr. E. L. Stetson Teacher.); 12 C. Brewer & Co's. Store; 13 Hon. H. Bay Co's. Store; 14 Hospital, American Seamen; 15 Hospital, English Seaman; 16 Hospital, French Seaman; 17 Residence H.B.M. Consul General; 18 Residence, U.S. Consul; 19 Residence, French Consul; 20 Residence, U.S. Commissioner; 21 Residence, Seamen's Chaplain; 22 Road to Nuuanu Valley; 23 Road to Ewa; 24 Road to Waikiki; 25 Inner Harbor, (always good anchorage.); 26 Hotel de France; 27 Premises of the American Mission."

The Bancroft Library (microfilm) and The Huntington Library.

2. 1847. "Honolulu." [Plan of the town of Honolulu, Oahu, Sandwich Islands]. Wood engraving, 8 x 13 cm. Orientation (north arrow) toward upper left. These places are added: "28 J.B. McClurg's Store; 29 E. & H. Grimes' Store; 30 Everett & Co's. Store; 31 Starkey, Janion & Co's. Store; 32 Makee & Anthon's Store; 33 Ricker & Johnson's Store; 34 H. Skinner & Co.'s Store; 35 J. Robinson & Co's ship-yard." Along with the additional place names, there are other changes. For example: "8 The Mansion House, (Messrs. Carter & McFarlane); 11 Oahu Charity School, (Mr. E.L. Hatch, Teacher);" and numbers 14 through 21 have been reordered: "14 Residence, H.B.M. Consul General.; 15 Residence U.S. Commissioner.; 16 Residence French Consul; 17 Residence U.S. Consul; 18 Residence Bremen Consul; 19 Residence Peruvian Consul; 20 U.S. Hospital."

This reprint of Map. No. 1, with additions and minor spelling changes, may be found in *The Friend*, Vol. V, No. II, Jan. 15, 1847, p. 13, cols. 2 and 3.

The Bancroft Library and The Huntington Library.

3. 1847. "La Paz [Lower California] And Its Environs showing the positions occupied by the U.S. Troops and the Mexicans, during the attack in the months of November and December, 1847. Surveyed and drawn by H. Ehrenberg." Manuscript map on paper (torn). 42 x 60 cm. Scale: [1:6,700]; [graphic scale in lower center]. Orientation ("Magnetic") toward lower left. Below the title, in the lower left of this pencil and ink drawing: "Property destroyed by The Mexicans." (designated by a blue line); and, "Property destroyed by the U.S. Troops." (designated by a red line). Hachured. Shoreline is delineated, as is the "Arroya". Crops, including vineyards and orchards, are marked. Buildings are represented. Shows roads to: "Sacadal, El Palo, San Antonio, La Huerta, La Vinorames and La Laguna", as well as "Pass to the Laguna", "Green Hill", and "Red Hill". Numbers 1 through 24 correspond to a separate listing (see Map. No. 4).

NARS, RG 77, Records of the Office of the Chief of Engineers, US 324-98. This map was located among the maps deposited by Colonel Robert Stockton Williamson.

4. 1847. "La Paz [Lower California] And its Environs showing the positions occupied by the U.S. Troops and the Mexicans during the attack in the months of November & December 1847. Survey by H. Ehrenberg copied by Lieut. W.H. Warner, Topog. Engr." Manuscript map on paper. 44 x 57 cm. Scale: [1:6,700]; [graphic scale in lower center]. Orientation ("Magnetic") toward lower left. Below the title, in the lower left of this pencil and ink drawing: "Property destroyed by the Americans", (designated by dark shading); and "Property destroyed by the Mexicans", (designated by light shading). Natural features, buildings, and roads are similar to Map. No. 3. Numbers 1 through 24 correspond to a separate listing entitled "References for the Map of La Paz, L. Cal." These are: "1 Principal station of the US Troops; 2 Church; 3 Quarters occupied by Co B; 4 Palacio's House; 5 Fortification on the Hill; 6 Well; 7 Corner of Belloes house; 8 Nearest point of the enemys advance when endeavoring to take a vacant house near to the position of the US Troops; 9 Nearest approach of the Indians; 10 Portuguese House; 11 Old Cuartel or Mexican barrack; 12 & 13 ~~Old~~ Captⁿ Steeles party taking the old Cuartel 14 Graveyard 15 First position of Mexican flag 16 Camp of the Enemy 17 Last position of the Mexican flag; 18 Red Hill 19 Palacio's country house; 20 Calavera attacks on the Schooner from this point; 21 Alcades House burned; 22 Palacios County (Town?) house (destroyed); 23 Cross road uniting the two Roads to La Laguna 24 Arroyo from 4 to 6 feet deep & 10 to 12 wide, natural covered way by which the Enemy brought his Command to N^o 11 -".

NARS, RG 77 (b), Records of the Office of the Chief of Engineers, AMA 122. Another manuscript map is in the Library of Congress.

5. 1847. "La Paz [Lower California] And Its Environs. showing the positions occupied by the U.S. Troops and the Mexicans, during the attacks in November & December. 1847. Copied by Lieut. W.H. Warner, U.S.T.E. from a Survey made by H. Ehrenberg. P.S. Duval. Lith. Philad^a." Lithograph. 42 x 53 cm. Scale: [1:6,700]; [graphic scale in lower center, one inch to 550 feet (approx.)]. Orientation ("Magnetic Meridian") toward lower left. Double border. In the lower left of this lithograph: (unshaded box), "Property destroyed by the Americans"; (lightly shaded box), "Property destroyed by the Mexicans". Natural features, buildings, and roads are similar to those in Maps No. 3 and 4. Index for points of reference in upper right. The list, numbers 1 through 24, has minor changes from that which appears in Map. No. 4, for example: "3 Quarters occupied by Company B; 15 1st position of the Mexican Flag; 22 Palacio's Town house destroyed."

The Bancroft Library (This copy has a plate number "18" in the upper right corner.) Also found in : U.S. Congress, House, *Message from the President . . . to the Two Houses of Congress . . .*, 30th Cong., 2d sess., 1848, HED 1 (Serial 537), as an accompaniment to Letter of Henry S. Burton, Lt. Col., N.Y. Vols., La Paz, Jan. 16, 1848 to Lt. W.T. Sherman, A.A.A. General, Monterey, pp. 109-113. An additional version appears in Hubert Howe Bancroft, *History of the North Mexican States and Texas*, Vol. II 1801-1889, Vol. XVI of *The Works of Hubert Howe Bancroft* (San Francisco: 1889), p. 715. Another copy is to be found in The Huntington Library.

6. 1848. "Sketch of the Capture of San Antonio, Lower California; and rescue of American Prisoners. March 16th 1848." Manuscript sketch on paper. No scale or orientation given. At present, the original cannot be located in NARS, Records of the Adjutant General's Office, LR, An Enclosure of 1468-M-1848, but a faint xerox copy is among the Sacks Collection at the Arizona Historical Foundation. Hachured. Shows twenty buildings including "Barracks" and identifies a Church, a "Hot Spring", two ravines, "Hildago's House", the "Head Qrt. of Pinéda", the building where the "American Prisoners" were kept, the route of the rescue party, the directions for "Charge of Lieut. Halleck", and "Charge of Capt. Steele", "Mexicans Retreating" (from barracks), and "Mexicans Retreating" (from headquarters).

NARS, also reproduced on Microcopy 567, Roll 386.

7. 1849. "Plano de San Juan [Bautista, California]." In lower right: "levantado en el mis de Noviembre 1849 por Herman Ehrenberg." Manuscript map on paper (torn). 25 x 44 cm. Scale: [1:2,600]; [graphic scale in lower left of map with designation "Pies

Ingleses"]. In center is written: "Las Calles tienen 60 pies de ancha." Orientation ("Magnético") toward lower right. Shows lot and block numbers. Several Roman numerals are crossed out and given different Arabic numerals. Land ownership is designated by initials. Stream in lower end of map flows northwest (as indicated by arrows). Streets, "Calles" are: "Primera; Segunda; Tercera; Cuarta; Quinta; Del Sur; de Monterrey; de Tahualami; de Franklin; de Washington; de Mariposas; de Polk; de Muckelemi; de San Jose; del Norte". "Reservado para Iglesia No. XXIX" is identified.

The Bancroft Library (photocopy) and The Huntington Library.

8. 1849 [1850]. "Plan of Sacramento City, State of California. Original Survey by Capt.ⁿ W.H. Warner USA in Dec^r 1848: extended by the City Charter; adopted by the PEOPLE Oct^r 13th 1849 and Surveyed by Clement W. Coote C^y Eng^r Dec^r 1849. Copied by H. Ehrenberg. Surveyor. [Lith. by W. Endicott & C^o 39 Beekman s^t N.Y.]" Lithograph. 61 x 66 cm. Scale: [1:6,850]; [graphic scale in upper right, "Scale of Feet," 3 1/2 inches to 2000 feet]. Orientation ("Magnetic M.") toward lower left. Triple border (torn). Inscription in upper right: "We the Undersigned Citizens of California being well acquainted with Sacramento City, and the Official Map of the City made the present year, Certify that this map is a faithful copy of the Original. New York May 1st 1850 [Signed] Albert Prizel [?]; Edw [?] Harrison; Thomas O. Larkin; Jacob R. Synder; Joseph P. Thompson; Henry P. Teschemacher." In the upper left is written (in ink): "Filed at the request of J.H. McKense. Oct. 9th 1896 at 1h 30' P.M. Sacramento Co. Records. R.T. Cohn County Recorder." In the upper right corner is another inscription, in ink, difficult to decipher. There are four lines, the last two read: "N.P./ Aug. 2. 1872." Along the left border is written, in ink: "The following is written on other side of map. 'Map of Sacramento City 1849. This map belongs to John Prentice 1868. This map was in house when I bought property Dec 1883 Frank H. Schardin". Partially hachured. Shows drainage, "Arable Land", lots (some numbered), "Road from Feather River & other Mines", public squares, "Lake Sutter", and "Sutters Fort". Boundaries: north - American River; south - Y Street and the Cemetery; east - 34th Street; west - American and Sacramento Rivers.

State of California, County of Sacramento, City of Sacramento, Recorder's Office. Another copy (reduced to 46 x 50 cm.) is reproduced in: *Ibid.*, *Subdivision Maps*, Book 3, p. 27. Copies of this reproduction may be found in the California State Library, Sacramento, and in The Bancroft Library. A facsimile appears in *Historic Urban Plans* (Ithaca, N.Y., 1969), and The Bancroft Library has a proof copy of an edition limited to 500 copies. The map is listed in: *California Delineated, Being a collection of Maps, Views, Broad-sides, Imprints & Other Rare Historical Ephemera, Catalogue 158*. Offered for Sale by Edward Eberstadt & Sons (N.Y.: n.d), p. 20; Philip L. Phillips, *A List of Maps*

of America in *The Library of Congress Preceded by A List of Works Relating to Cartography* (Washington: 1901), p. 753; and Harry T. Peters, *California on Stone* (Garden City, N.Y.: 1935) p. 118.

9. 1850. "Plan of San Francisco. Copied and Enlarged from the Original of W^m M. Eddy's, City Surveyor, by H. Ehrenberg. Surveyor. Lith. of W^m Endicott & C^o N.York." Lithograph. 58 x 84 cm. Scale: [1:4,700]. Orientation (north) toward lower right. Inscription in lower left: "New York May 1st 1850 [.] We the undersigned Citizens of California Being well acquainted with the Town of San-Francisco, and the Official Map of the same, Certify that this Map is a faithful copy of the original of the present year. [Signed] Thomas O. Larkin; Edw [?] Harrison; Henry P. Teschemacher; Joseph P. Thompson; Albert Prizel [?]; Jacob R. Synder." Shows shoreline, drainage, block and lot numbers (some surveyed lots are underwater), street names, public squares, and the cemetery. Boundaries: north - Beach, Bay and Francisco Streets; south - Townsend, Brannan and Bryant Streets; east - "Gov^{mt} Reserve", "Rincon Point" and East Street; west - Larkin Street.

The Bancroft Library and the California Historical Society. A copy of this map is listed and illustrated in Eberstadt's *California Delineated, Catalogue 158*, pp. 20-21; and also illustrated in: R.S. Masters, R.C. Smith and W.E. Winter, *An Historical Review of the San Francisco Exchange* (San Francisco: The Pacific Telephone & Telegraph Company, 1927), p. 24.

10. 1850. "Sketch showing country on Klamath River Cal., from Private Notes from explorations of Herman Ehrenberg." [NARS title] Manuscript map on paper (stained). 20 x 32 cm. Orientation (north) toward left center. Inscriptions, in ink, are as follows: upper left - "The Private Notes from the explorations of Herman Ehrenberg" [may not be in Ehrenberg's hand]; lower end - "I consider the mouth of Shasta, and the whole North of Indian creek to be in reality some 6 or 8 miles further south, but having lost my notes I can not alter it now. H. Ehrenberg." Latitudes 41° N and 42° N and longitudes 123° W and 124°W are given. Boundaries: northeast - "Road to Oregon", "Yreka City", "Shasta R."; east - "Shasta Butte"; southeast - "Shasta City", "Sacramento R.", "French Gulch"; southwest - "Eureka", "Union Town", "Mad R." west - "Gold Bluff", "Klamath R."; northwest - "Illinois R.", "Red-rugged-Ranges-of auriferous-Mts." . Shows "Trails to the mineral regions", including trails from Shasta City through the "Coast Ranges" to Yreka City and on toward Oregon; and south of Gold Bluff, northeast across Redwood Creek and the Klamath River north toward Yreka City. There are trails in "Josephine Valley", in the northwest; and the words "Yreka Canal" have been added (in red ink) southeast of Yreka City.

NARS , RG 77, Records of the Office of Chief of Engineers, US 324-43. This map was located among the maps deposited by Colonel Robert Stockton Williamson.

11. 1850. "Map of the Klamath Gold Region [California] Drawn by H. Ehrenberg, From Superficial Surveys in The Spring of 1850". Woodcut. 19 x 17 cm. Scale [1:1,050,000]. Single vertical border; the title (upper and lower) is placed within a double border. Hachured. Shows drainage, points off the coast, creeks, rivers, towns, "Ravines and Ridges," "Elevated Table lands and open." Thirty-six places names include: "Smith's River; Rocky Point; Klamath R.; Shasti R. [sic.]; Trinity R.; Gold Bluff; Port Trinidad; Mad R.; Union Town; Eureka; E. Humboldt; W. Humboldt; Humboldt B." The latitudes of 41° N and 42° N are marked but the numbers appear upside down. Boundaries: northeast - Klamath and Shasta Rivers; southeast - South Fork of Trinity River; southwest - Humboldt Bay; northwest - Smith's River.

A brief resume of Ehrenberg's account of his northern California explorations accompanies this map that appears in: *Weekly Pacific News Per Steamers Columbus and Carolina* (San Francisco, Cal.), Thursday Aug. 15, 1850, p. 1. cols. 3-5. The Bancroft Library and The New-York Historical Society. An illustration of this map is included in: John E. Parsons, ed., "Nine Cousins in the California Gold Rush," *The New-York Historical Society Quarterly* XLVII (Oct., 1963): 387. Described in Carl I. Wheat, *Mapping the Transmississippi West, Vol. III From the Mexican War to the Boundary Surveys, 1846-1854* (San Francisco: 1959), pp. 131, 295 (#672).

12. 1850. "Plan of the Town of Klamath [California]." Manuscript map on paper, colored. 38 x 54 cm. Scale: [1:4,800]. Orientation ("Mag. north") toward lower left. The following inscriptions appear: "Original Plan made by Ehrenberg on the 5th of September 1850 in the Town of Klamath." "From the Original Survey made by Meyers and Ehrenberg in the month of August. 1850 -" "Filed on this 7th day of Nov'r. A.D. 1850 John A. McGlynn County Recorder by Jas. O'Grady Deputy". Shoreline of Klamath River delineated. Shows lot and block numbers (1-186). Fifteen street numbers, e.g., "Front, Second (through) Fifteenth"; and sixteen street names (all female, e.g. "Pauline, Octavia, Laura, Eliza, Celine") are given. Two squares - Fulton and Shasta - are designated and a "Dry Creek" is noted.

State of California, County of San Francisco, City of San Francisco, Recorder's Office, *Map Book 2A and B*, p. 93.

13. 1851-1852. "Northern California taken in 1851 & '52 by H Ehrenberg C.E. With notes from Lieut. Williamson U.S.T. Eng:." Manuscript map, pen and ink on cloth. 60 x 50 cm.

Scale: [1:900,000]. Oriented with north toward left. This map covers some of the same area as that of 1850 (No. 10), but extends farther to about 119°45'.

The Bancroft Library.

14. [1854. Survey of the Town of Colorado City, Arizona. In July, 1854, Ehrenberg copied Samuel Peter Heintzelman's survey of Fort Yuma and made a survey for the proposed townsite of Colorado City (present Yuma, Arizona). 936 acres were divided into seven sections. The new town "commences at the Junction [of the Gila & Colorado Rivers] and runs down the river taking in all between the Boundary and river." Neither maps have been located. References are from: Samuel Peter Heintzelman Papers, Library of Congress, July 12- September, 1854; and Sacks Collection, Files for Colorado City, Arizona Historical Foundation.]

15. 1854. "Map of the Gadsden Purchase, Sonora, and portions of New Mexico, Chihuahua & California." Manuscript map on paper in ink and pencil, torn. 48 x 65 cm. Scale: [1:2,100,000]; [graphic scale, lower left, one inch to thirty-three miles, (approx)]. Double border. A red line delineates the southern border of California and the Gadsden Purchase. Hachured. Latitudes (from 28°N to 36°N) and longitudes (from 106°W to 110°W [119°]) are given. Boundaries: northeast - Santa Fé, New Mexico; southeast - "Head waters of the Concho River" Chihuahua; southwest - Guaymas, Sonora [Although Lower California is depicted, no place names appear on its western border]; northwest - Santa Barbara, California. Special features include: "Probable Route of the Atlantic & Pacific Rail Road Via Texas" that extends from Franklin, Texas, to "Colorado City" [placed on the west bank of the Colorado River] and Fort Yuma. East of Tuscon at the "Salt Lake" the route divides -- the northerly branch reaches the Gila River east of long. 113°W and parallels the river to the Colorado where it travels into California for a short distance. The southerly branch goes through San Xavier and along the eastern border of the southern mountains to the same terminus, where it also proceeds into California. Along the western coast of Sonora, in the "Great Sand Desert" is noted: "Ehrenberg Post [on] [torn] Party." Also designated, north of "Adair's Bay", is "Col. Gray & Party". Two explorer's routes are given: "Captain Sitgreaves Route"; and "Fremonts Route to Great Salt Lake".

NARS, RG 75, Records of the Bureau of Indian Affairs, File 133. •

16. 1854. "Map of the Gadsden Purchase Sonora and portions of New Mexico, Chihuahua & California. by Herman Ehrenberg, C.E. From his private Notes & those of Major Heintzelman, Captⁿ Sitgreaves, Lieut. Derby; Bartlett, Gray; Julius Froebel & others. Lith^y by Alex. Zakreski at his Topogr. Office N^o 100 Merchant Street. Bolton Barron's Build-

ing [San Francisco]. 1854". Lithograph. 47 x 64 cm. Scale: [1:2,100,000]; [graphic scale, lower left, one inch to thirty-three miles, (approx)]. Single border. Boundaries colored. (Published map of Map No. 15.) Certain additions and minor typographical changes have been made.

The copy in the Arizona Historical Society is inscribed in ink in upper left corner verso: "Major Harvey Indian Agent respects [?] Herman V. Ehrenberg." The California colony of "Anaheim" south of "Santa Anna" [sic.] is added. In February, 1971, John Howell-Books, San Francisco, purchased this copy from the sale of the collections of the King of Hanover. For further information consult: *Verzeichniss der Sr. Majestät dem Könige von Hannover überreichten Amerikanischen Sammlung von J. J. Benjamin II* (Hanover: 18 December 1863), p. 8 item 150, "Karte von Californien, Sonora, New-Mexico und A., 52 C. lang und 71 C. breit." Benjamin, a native of Moldavia, was a Hebrew scholar and world traveler. For an account of his American adventures see: Israel Joseph Benjamin, *Three Years In America, 1859-1862*, trans. by Charles Reznikoff, intro. by Oscar Handlin (2 vols., Philadelphia: 1956).

The copy in the California Historical Society is inscribed, in ink: "F.D. Atherton Esq. with the Compliments of A.G. Randall & H. Ehrenberg." Other hand additions in ink:

"Arizona Planchas", south of Tubac, in Sonora;

"Gold x Quijotoa", west of Papago Peak, along the Arizona-Sonora border;

"Ajo Mine x Copper", north of Sonoita, Sonora, in Arizona.

Additional hachured areas appear south of "Tumacacari," across the border into Magdalena, and around Papago Peak.

Additional copies may be found at the Walters Art Gallery, Baltimore, Maryland, and The Huntington Library, and photocopies at the Bancroft Library and the Arizona Historical Foundation. Described and illustrated in Wheat, *Transmississippi West*, III, pp. 165-166, 331, (#803).

17. 1856. "Tubac Head Quarters 'Sonora Exploring & Mining Co.' [Arizona]." Lithograph. 18 x 24 cm. Scale: [1:1,450,000]. Orientation: (north) toward left center. Single border. Hachured. Below the title is: "For description of Country see Col. Gray's Rail Road Report". The mining company occupied the former Mexican presidio, and this simple plan gives the walled arrangement of the "Government Buildings", and notes: "Guarde House"; "Quarters"; "Coral"; "Blacksmith Shop"; "Well"; "Fraqua"; and several interior buildings, one of which would be "Suitable for a Store". The "Road from Tucson to

Calabazas, Santa Cruz, Magdalena, Altar, etc.", and "To Calabazas" are shown. "Deserted Fields", "Orchards", and "Milpas" are separated by fences. The Santa Cruz River and a spring are east of the presidio as are "Mina S^{ta} Rita" and "Sierra San Cayatano". West of the presidio is: "Mountains West of the Valley".

Appears in: *Sonora and the Value of Its Silver Mines, Report of the Sonora Exploring and Mining Co., Made to Stockholders, December, 1856*. Cincinnati: Railroad Record, 1856, folded at the end of the volume. Cited in: Henry R. Wagner, *The Plains and the Rockies: A Bibliography of Original Narratives of Travel and Adventure, 1880-1865*. 3rd ed. rev. by Charles L. Camp (Columbus, Ohio: 1953), p. 363 (#280); and *The Celebrated Collection of Americana formed by the late Thomas Winthrop Streeter. . .*, Vol. I (2 vols. New York: Parke-Bernet Galleries, Inc. 1966), p. 347 (#489).

A complete copy of the mining company's report may be found in Special Collections, University of Arizona Library. A copy is found in The Huntington Library.

18. 1856. "Sketch Of Silver Regions around Tubac [Arizona]. By Herman Ehrenberg, C.E. Middleton, Wallace & Co. Lith^{rs} Cin. O." Lithograph. 22 x 21 cm. [Scale: 1:1,450,000]. Orientation ("True North") toward left of upper center. Double border. Hachured. Shows towns (Calabazas, Aribac, Tumacacari [and symbol for mission], Tubac), trails (and distances between places), three mountain ranges, including the "Cajetano" west of "Tumacacari", the "Rio Santa Cruz", "Sonoita Creek", and a number of intermittent streams. Boundaries: northeast - "Puerto de los Muchacha"; east - "Santa Rita Mts" (with the "Pinery" noted); southeast and south - "Calabazas", and "Arizona Range"; west - "Aribac" and fifteen miles to the northwest, "To Sonoita 100. Colorado City 230." Nine mines are named: one, the "Sopori Mine" is located south of the "Sopori R^o"; the others, in the vicinity of Aribac [Arivaca] are "S^t Margarita; S. José; Las Tajitos; Arenias; Blanca; Amado; Purissima". Another, the "Salero" is in the Santa Rita mountains. The distance from Aribac to Tubac is 15 miles.

Appears in: *Report of the Sonora Exploring and Mining Co.*, 1856, folded at the end of the volume. See also Wagner-Camp, *The Plains and The Rockies*, p. 363; and *The Streeter Collection*, I, p. 347. A copy is found in The Huntington Library.

19. 1856. "Sketch of Mineral Veins in the Santa Rita Range of Mountains near Tubac, N.M. [Arizona]. From the Original by Herman Ehrenberg, C.E. By F. Brunckow, M.E. Middleton, Wallace & C^o Lith^s Cin. O." Lithograph. 16 x 22 cm. Scale: [1:158,400]; [graphic scale, in lower right "2 1/2 inches to 1 Mile."] Orientation ("N." arrow) toward upper left. Single border. Numerical references: "I. New Vein of Galena; II. Ojera Vein; III. [no citation]; IV. Salero Vein; V. Camp." A symbol (circle) indicates "Shafts and

Openings from former times." Shows "Tubac trail". Hachured, with attempts to make the hachures darker on certain south and east slopes and thus give the appearance of oblique illumination.

Appears in: *Report of the Sonora Exploring and Mining Co.*, 1856, folded at the end of the volume. See also Wagner-Camp, *The Plains and The Rockies*, p. 363; and *The Streeter Collection*, I, p. 347. A copy is found in The Huntington Library.

20. 1857. "Sketch of Silver Regions around Tubac [Arizona]. By Herman Ehrenberg, C.E. Middleton, Wallace & Co., Lith^{rs} Cin. O." Lithograph. 23 x 22 cm. Scale: [1:1,450,000]. Orientation ("True North") toward left of upper center. Double border. Hachured. Similar to Map. No. 18. The additions are: mines - (north of Aribac) "Escalera Mine", "Hein[t]zelman Mine", and "Numerous old Mines and Silver bearing Veins" [with symbols]. The "Sierra Colorado" is the name given to one range of hills west of Tubac.

Appears in: *Possessions and Prospects of the Sonora Silver Mining Company, Report of the Sonora Exploring and Mining Company, Made to the Stockholders, September 1857*. Cincinnati: Railroad Record Print, 1857, opposite p. 6. A complete copy of this report is available in Special Collections, University of Arizona Library. A copy of the map may be found in the Arizona Historical Society. Cited and illustrated in Carl Wheat, *Mapping the Transmississippi West, Vol. IV, From the Pacific Railroad Surveys to the Onset of the Civil War, 1855-1860* (San Francisco: 1960) pp. 52-53, 223 (#913). See also Wagner-Camp, *The Plains and The Rockies*, p. 264; and *The Streeter Collection*, I, p. 347 (#489), where Ehrenberg is erroneously referred to as "Christian Herter." A copy is found in The Huntington Library.

21. 1858. "Map of the Gadsden Purchase Sonora and portions of New Mexico Chihuahua & California by Herman Ehrenberg C.E. From his private Notes and those of Colonel Gray Maj: Heintzelman, Lieut: Parks and others. The Yaqui, Mayo and Fuerte Valleys are by A. Fleury Military [sic.] Eng: of Sonora. 1858. Middleton, Strobridge & Co. Lithographers, Cincinnati O." Lithograph. 62 x 62 cm. Scale: [1:2,100,000]; [graphic scale, "Scale of Statute Miles." appears in lower left; one inch to thirty-three miles, (approx.)] Double border. Printed in lower center: "With exception of the Colorado, Yaqui, Mayo, and Fuerte, the Streams are Intermittents in Sonora". In center left corner, an index for points of reference lists: "Ap. - Apaches; M. - Mountains; P. - Gold Placers; R. - All water courses. Pompously called Rios Generally rising in the surface only near the Settlements marked on the Map; S - San S^a Santa." Identified by symbols: "American Fort; Mexican Fort; Indian Village; Important Mining District; and, Sonora Exploring & Mining Co." Some copies bear the copyright inscription, in the center, below the border: "Entered according to Act of Congress in the year 1858 by Herman Ehrenberg in the Clerk's Office

of the southern district of Ohio." Some copies are folded into brown cloth covers, 15 x 10 cm., with printed label on front cover: "Map by Arizona, Sonora, and the adjoining Territory by Herman Ehrenberg 1858". Some copies have blue colored boundaries for California, the Gadsden Purchase, parts of Sonora, Chihuahua and Sinaloa. Hachured. Shoreline is delineated. Latitudes (from 23°N to 34°N) and longitudes (from 106°W to 119°W) are given. Boundaries: northeast - north of Ft. Conrad; southeast - Mazatlan; south - Cape S. Lucas; northwest - north of Los Angeles. Special natural features include: "Barren waste and rugged Mountains" (north of the Gila River and south of "Williams Fork" of the Colorado River); "Mud Vulcano" south of the New River; "Saline" on the shores of "Adairs Bay." Other special features point out the presence of exploring parties in northern Sonora: at Adairs Bay - "Col. Gray"; and in the "Sand Desert" - "Explored in 1854 by Poston, Ehrenberg & Co." Railroad routes are given: "Col. Gray's R.R. Route"; "Lieut. Parks R.R. Route" [both indicated by a solid line]; and, "Ehrenberg's R.R. Route", indicated by a broken line. One section of this route commences at Tubac, the other at "S. Xavier" and both travel west until they meet north of "Cababi". The single route continues west, intersects with "Parks" route at the Gila River and terminates at "Colorado City" which is placed on the east bank of the Colorado River. Numerous mines, especially those of the Sonora Exploring & Mining Co., are indicated around Cerro Colorado and Arivaca.

The copy in The Newberry Library is folded into covers. "No. 18" is written below "Sonora" on the front cover; on the inside front cover is inscribed: [in pencil] "Herman Ehrenberg Tubac N.M."; [in ink] "to J. Adelberg San Francisco 1860".

The copy in the Arizona Historical Foundation (Barry Goldwater Collection) is a copyright version and is folded into covers. The front cover is inscribed: "G.H. Ringgold"; the inside front cover is inscribed: "Geo H Ringgold USA July 9th 1858 from Major Heintzleman [sic.];" and the back of the map is inscribed: "G.H. Ringgold U.S.A. from Maj Heinzleman [sic.] U.S.A." The borders are colored.

The copy in The Bancroft Library (Hittell Collection) is folded into covers, (now mounted on linen) bears the copyright notation, and is colored. Two copies may be found in Special Collections, University of Arizona Library (one with covers). Additional copies: Library of Congress; The Huntington Library; the New York Public Library. The copies in the National Archives and Record Service are described below. Referred to in: Wheat, *Transmississippi West*, IV, pp. 107, 108, 230, illus. (#941); Phillips, *A List of Maps* (1901), pp. 291, 792; *The Streeter Collection*, I, p. 349 (#492), and illus. p. 344. [This copy was purchased and sold by John Howell-Books, San Francisco.]; and Philip L. Phillips. *A Descriptive List of Maps of California, and San Francisco, to 1865 Inclusive*. (Washington; 1915), p. 126, item 161.

Copies in the National Archives and Record Service

1. RG 77 (b), Records of the Office of the Chief of Engineers, AMA 176 [torn]. Not Copyrighted. Hand additions: "Libertad" (south of Lobos, along Sonoran coast); "R. Bella", north of "Busani"; and the well, north of Altar, is identified as "Banners".
 2. RG 46, Records of the United States Senate, File 38th Congress (38 A-G3). Copyrighted. Inscribed on the map: "Senator Davis Compliments of Sylvester Mowry". Hand additions (in red ink); the name "Arizona" is written across the northern portion of the map, and these boundaries (and extensions) are marked: From the Colorado River, along lat. 33°40'N, east to long. 103°W (added in the map's border), and following the western and southern boundaries of the Gadsden Purchase east to El Paso and thence north along the Rio Grande to the 32nd parallel and east to long. 103°W.
22. [1864?] [Sketch of Fort Whipple, Prescott and the Ehrenberg Road, Arizona]. Manuscript sketch on paper (torn), in pencil and red crayon, with an insert overlay with corrections in ink. 36 x 41 cm. Scale: [1:760,320]. Longitudes 113°W and 114°W are given. Hachured. Symbols ("x") for mines and ("W") for wells. These place names appear: "Peoples; Prescott; Ft. Whipple; Solomon Well; Hassayampe Crk; Vulture Mine; Cañon W; Haguhele Mts; Ehrenberg Road; Hole in R.W.; Harcura Mts; Hawk Sp; Tyon W.; A Rancherio; Black Tank; Mohave; Cerbat Rge; Ft. Mohave". Because of the crudeness of this sketch it is difficult to attribute it to Ehrenberg directly. However, in letters to John N. Goodwin, the Governor of the Territory of Arizona, and to Brig. Gen. James H. Carleton, Ehrenberg described his explorations in December, 1863 and January, 1864, to locate a wagon road from La Paz to the Weaver and Walker mines. To both officials he mentions enclosing a "rough tracing" of his "hasty survey". (These have not been filed with the letters.) To Goodwin, Ehrenberg explained: "The route to Walkers and Fort Whipple will not go to Weaver, but at a point of Mts., called Cañon Water by us, and 75 miles from La Paz, it will turn off in a more northerly direction, either by Rhodes Ranch - Date creek., or at a point between the two - thence I am told an excellent road exists. . . At Cañon Water the road will also turn off for Tuscon striking the Weaver wagon route about 25 or 30 miles south of that place."

NARS, RG 77, Records of the Office of the Chief of Engineers, US 324-88 (b). This map was located among the maps deposited by Colonel Robert Stockton Williamson. In the list that accompanies this collection, "No. 88" is identified as "Ehrenberg's map - Ft. Whipple, Prescott, Ehrenberg Road". (See below, Map No. 24.)

Additional references: NARS, RG 98, Records of War Dept. Commands, New Mexico, LR (112-E-27-1864), Herman Ehrenberg, La Paz, Arizona, February 4, 1864 to Brig. Gen. J.H. Carleton; " Letter to Governor Goodwin, 1864" *Arizona Historical Review* VII (July, 1936); 88-89. (The original of this letter by Herman Ehrenberg dated La Paz, Feb. 4, 1864, to Governor Goodwin, is filed with the Office of Secretary of State, Phoenix, Arizona.)

23. 1858 and 1866. "Map of the Gadsden Purchase Sonora and portions of New Mexico Chihuahua & California by Herman Ehrenberg C.E. From his private Notes and those of Colonel Gray Maj: Heintzelman, Lieut: Parks and others. The Yaqui, Mayo and Fuerte Valleys are by A. Fleury Military [sic.] Eng: of Sonora. 1858. Middleton, Strobridge & Co. Lithographers, Cincinnati O." Lithograph and manuscript map. 77 x 62 cm. Scale: [1:2,100,000]; [graphic scale, "Scale of Statute Miles." appears in lower left; one inch to thirty-three miles, (approx.)]. Single border.

A manuscript map, in ink and colored pencil, is attached to this 1858 lithographed map that bears the copyright notation. The attachment commences at the 33rd parallel and proceeds north to above lat. 37°N. The borders for the Territory of Arizona are delineated in red and green, and the name, "Arizona" is added in the northeastern part of the Territory. Two hand-added, color and symbol coded keys appear in the upper left:

- [blue box] Reservations of Pimas and Maricopas.
- [red box] " " proposed in Letter of Jan: 1866.
- [green box] Colorado-Bottom-Lands.
- [blue] Existing Roads.
- [red] Projected-practical Roads.

Rough sketch from the original. H.E.

[The following key is not Ehrenberg's hand.]

- o Reservation Recomd by Sup^t In^d affairs in Rep^t Leihy
- o
- o
- o do do " Poston
- + do do " Leihy see report-

Additional inscriptions: northeast Arizona and western New Mexico - "Country of the Navajoes removed by Gen. Carlton to the Pecos Reservation"; central Arizona and western New Mexico - "The Hostile Tribes of Apaches"; northwest - "Roving Bands of Pi-utes". Other Indian tribes are identified: "Yampais; Hualpais; Yavapais; Moquis; Zuñi". The "Ehrenberg R." is marked; and rivers, stream beds, mountain ranges, mines, towns and forts have been added.

NARS, RG 75, Records of the Bureau of Indian Affairs. File 38. See also: NARS, RG 75, Records of the Bureau of Indian Affairs, LR, Arizona Superintendency (L49), Letter of Herman Ehrenberg, La Paz, Jan. 11, 1866 to George W. Leihy, Supt. Ind. Affairs, Az.; and U.S., Office of Indian Affairs, *Report of the Commissioner of Indian Affairs for the Year 1866* (Washington: 1866), pp. 108-110.

24. 1866. [Fort Whipple, Prescott, and Ehrenberg Road, Arizona]. Manuscript map on paper (torn), in ink and pencil. 51 x 41 cm. Scale: [1:633,600]; [graphic "Scale of Miles" in lower center.]. Inscribed, in ink, in upper right corner: "Copy of Ehrenberg's map Sept. 1866". Latitudes 33°N, 34°N, and 35°N, and longitudes 112°W and 113° W are given. Hachured. Shows forts, Indian villages, towns (and some distances), rivers, creeks, and wells. In the upper left is the following:

	Lat	Long
Prescott	34° 29'	112° 34'
La Paz	33° 43'	114° 33'
Wickenberg	33° 47'	112° 53'
Ft. McDowell	33° 42'	111° 50'

In the northeast, north of Fort McDowell is written: "on line about 100 miles to the Salt Spring and Cottonwood-Mesa Formation". Below the 34th parallel, west of Wickenberg, is noted: "New Route: From La Paz 108 ms". North of the "Gila R." and west of "Ft. McDowell" is inscribed: "Level Country - travelling distances 65 to 70 miles". Includes: "Salinas R.; Pimas Vill^s; Maricopas; Wickenberg; Weaver; Walnut Grove; Peoples; Kirkland; Skull Valley; Prescott; Ft. Whipple; Granite Cr.; Lynx Cr.; Woolsey; Wolf Cr.; Aqua Fria; Turkey Cr.; Big Bear Cr.; Santa Maria R.; Blank Tank; King's Well [pencil notation - No water]".

NARS, RG 77, Records of the Office of the Chief of Engineers, US 324-88 (a). This map was also deposited by Col. Williamson (see Map. No. 22).