

FABRICS

STATE OF CALIFORNIA
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DEPARTMENT OF NATURAL RESOURCES
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DIVISION OF MINES
FERRY BUILDING, SAN FRANCISCO 11
OLAF P. JENKINS, Chief

FABRICAS

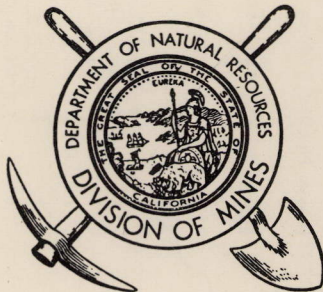
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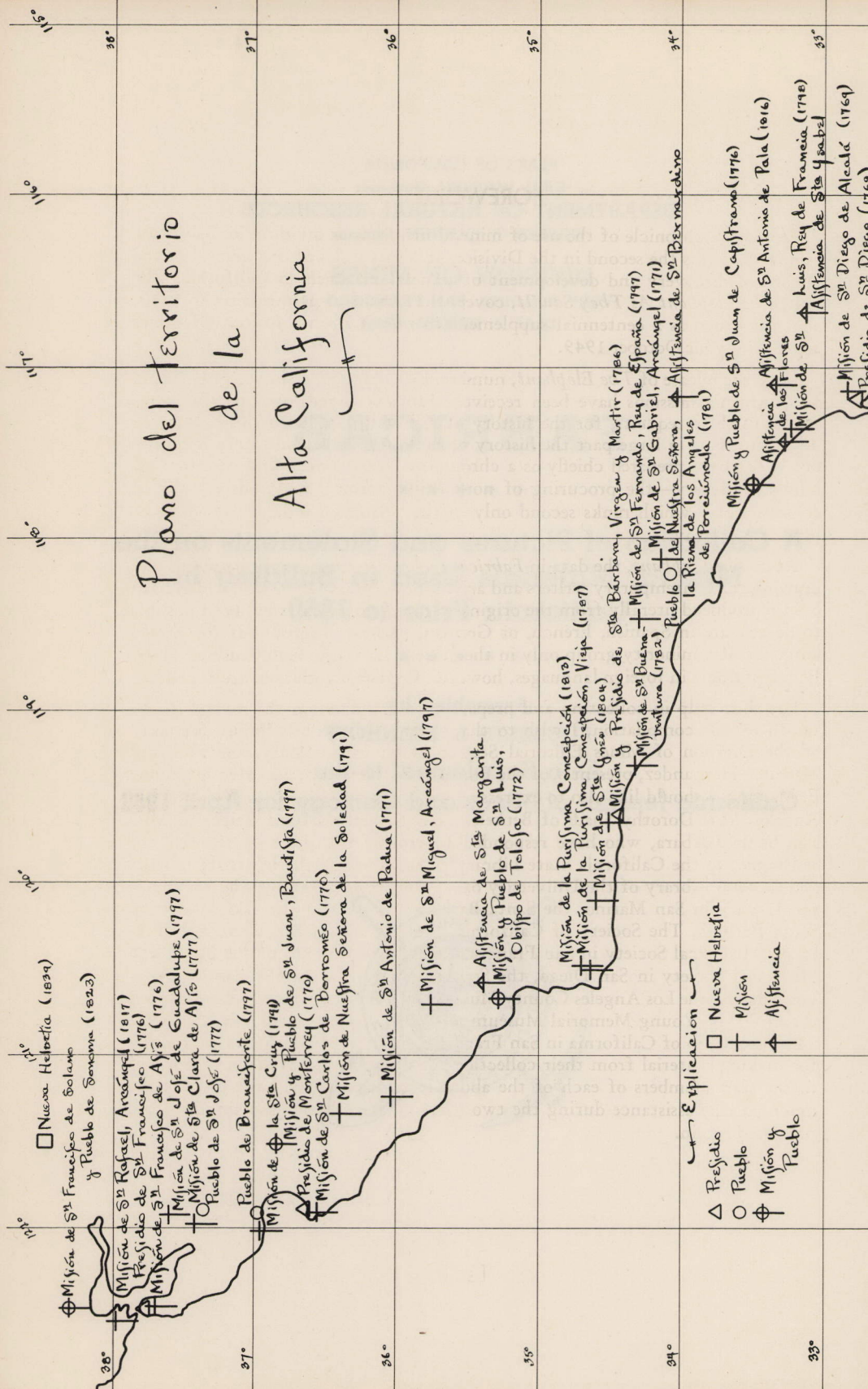
A Collection of Pictures and Statements on the
Mineral Materials Used in Building in
California Prior to 1850

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Assembled by
ELISABETH L. EGENHOFF

As a Supplement to the
California Journal of Mines and Geology for April 1952





Plano del Territorio

de la

Alta California

- Explicacion
- △ Presidio
 - Pueblo
 - ⊕ Misión y Pueblo
 - Nueva Helvetia
 - + Misión
 - ⬆ Asistencia

FOREWORD

Fabricas, a chronicle of the use of mineral materials in building in California prior to 1850, is the second in the Division of Mines series of documents on the history of discovery and development of mineral materials in California. The first, *The Elephant As They Saw It*, covers the history of gold mining to 1862, and was issued as a centennial supplement to the *California Journal of Mines and Geology* for October 1949.

Since the release of *The Elephant*, numerous requests for a similar publication on California missions have been received. *Fabricas* is presented partly in response to these requests, for the history of the early use of building materials in California is in large part the history of building at the California missions; but it has been prepared chiefly as a chronicle of California's first documented mineral industry—the procuring of nonmetallic mineral materials for use in construction—which ranks second only to the petroleum industry in value of production today.

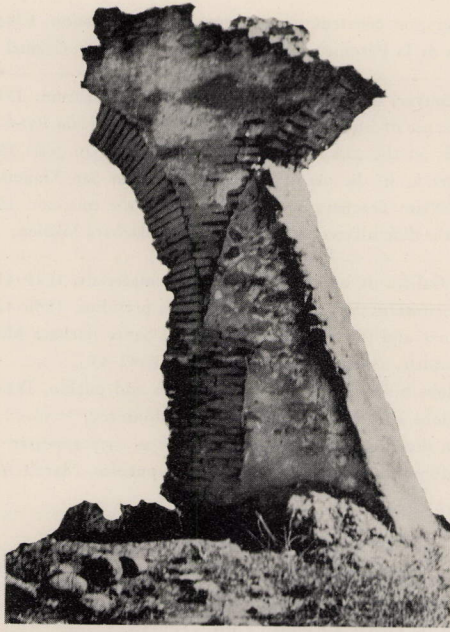
As in *The Elephant*, the data in *Fabricas* are presented through the words and drawings of contemporary writers and artists. Some of the extracts (which have been reproduced literally from the original records whenever it has been possible to do so) are in Spanish, French, or German, because English was the native language of a minority group only in the State prior to the Gold Rush of 1849. For all extracts in foreign languages, however, English translations are appended.

For their help in collecting and preparing for publication the material contained in this compilation, I wish to thank Mrs. Geil Bartels Braun, formerly of the Division of Mines Editorial Section staff; Misses Mary Rae Hill and Madeline Hernandez, presently of the Editorial Section staff; and Miss Geraldine E. Martino. I should like also to express appreciation to Mrs. Edith Webb of Los Angeles, Mrs. Dorothy Shadi of Berkeley, and Father Maynard Geiger of Mission Santa Barbara, who have responded generously to numerous requests for assistance; to the California State Library in Sacramento, the Bancroft Library and General Library of the University of California at Berkeley, The Huntington Library in San Marino, the Santa Barbara Archives at the Old Mission in Santa Barbara, The Society of California Pioneers in San Francisco, the California Historical Society in San Francisco, the Serra Museum of the San Diego Historical Society in San Diego, the Southwest Museum in Highland Park in Los Angeles, the Los Angeles County Museum in Exposition Park in Los Angeles, the M. H. de Young Memorial Museum in Golden Gate Park in San Francisco, The Book Club of California in San Francisco, and the Museo Naval in Madrid, for making material from their collections of Californiana available to us; and to the staff members of each of the above institutions, who have given us so much patient assistance during the two years we have been collecting the data presented herein.

ELISABETH L. EGENHOFF
Editor, Division of Mines
January 15, 1952.

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"FABRICA (fah'-bre-cah), f. 1. Fabrication, the act and manner of building. 2. Fabric, frame. 3. Fabric, structure, building, edifice. 4. Manufactory. 5. Manufacture. 6. A fantastic or chimerical idea." Velázquez.

IN CONSPECT
1786-1850

THE FRANCISCAN FATHERS
On Construction at Santa Barbara Mission

1786-1820 *

[English translation is on pages 153 to 167.]



VIVA JESUS

Informe de la Mision de la Virgen, y Martir Sta Barbara, sita en el canal de dicha Sta; asi de lo espiritual, como de lo temporal: y comprehende desde el dia 4. de Diciembre del año 1786; que fue el de la fundacion, hasta el dia 31. de Diciembre de 1787.

Año 1787. Dia 4. de Diciembre del año 1786; en q. celebra N.S.M. Iglesia la Fiesta de la V. y M. Sta Barbara, se puso la SSma Cruz en el sitio donde se fundo la Mision dedicada a la dicha Sta Virgen y Martir, llamado el Pedragoso, distante como un quarto de legua del Rt Presidio de la expresada Sta, y el dia 15. del reterido mes, y año en una enramada, q. se hizo, celebro la primera Misa, y predico el R.P. Preste Fr Fermin Francó de Lasuen con asistencia del Sr Governr, y algunos soldados, q. le acompañaban: Y por ser el tiempo riguroso del invierno, en q. son las agua, en este paiz, y haver sido abundantes, y continuas las lluvias, no se pudo fabricar edificio alguno, aunq. se cortaron algunas maderas, para gdo el tiempo diese lugar pa las Fabricas. Los Ministros primeros, q. pudieron señalados por el R. P. Preste para esta fundacion, fueron los PP. PPres Fr Antonio Paterna, y Fr Christoval Oramas, los q. se han mantenido, y mantienen en esta sobre dicha Mision, y dan esta Informe, q. es del tenor siguiente. . . .

Fabricas. Se ha fabricado una casa de 16. vs de largo, y 5. de ancho, dividida en dos piezas pa habitn de los Padres, cercada de varas, y embarrada con el techo de sacate. Contiguo a esta, un quarto de 6. vs de largo, y 5. de ancho con el techo de terrado, y sobre este otro de sacate, y sirve de cocina. Item: una trox de 21. vs de largo, y 5. de ancho, cercada de palos, y embarrada con el techo de sacate. Item: una casa de 12. vs de largo, y 5. de ancho, cercada de varas, y embarrada, con el techo de sacate, y esta sirve pa recoger las Mugerres solteras, y Muchachas. Item: una Capilla de 14. vs de largo, y 5. de ancho, cercada de varas, y embarrada, con el techo de sacate. Item: un quarto de 6. vs de largo, y 5. de ancho, cercado, y techado de terrado, y este sirve pa los sirvientes. Item: un quarto de 10. vs de largo, y 5. de ancho, cercado de varas, y embarrado, con el techo de terrado, y este sirve pa carpinteria, y recogerse los solteros, y muchachos. Item: 4. piezas, o quartos, uno de 8. vs de largo, 2. de 6. vs, y el otro de 5.: todos de 6. vs de ancho, y de pared de adove de una vara de ancho. No se han podido cubrir por estas las aguas immediatas. . . .

Fr Antonio Paterna

Fr Christoval Oramas

* The Santa Barbara Mission Archives at the Old Mission, Santa Barbara, California, are the depository for most of the rare manuscript records kept by the Franciscan Fathers during their pre-secularization administration of the California missions. Manuscript copies of these valuable historical documents, made toward the end of the nineteenth century, are also preserved in the collection of the Bancroft Library at the University of California in Berkeley.

Several sets of records were kept at the missions. *Annual and Biennial Reports*, listing property and summarizing accomplishments, were made regularly by the Padres Ministros to the Padre Presidente. A *Libro de Patentes*, also kept at each mission, contained copies of official letters. At Santa Barbara, the annual and biennial reports were also copied into the *Libro de Patentes*, and so were fortunately preserved.

The excerpts on *Fabricas* have been drawn from the original annual reports, if available, otherwise from copies of the reports in the *Libro de Patentes*. Excerpts are printed herein by permission of Old Mission, Santa Barbara, California, through the kindness of Fr. Maynard Geiger, Archivist.

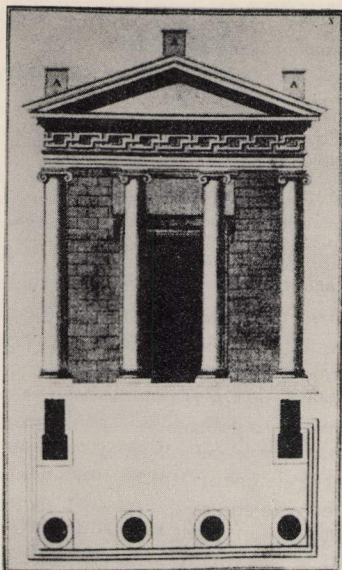


FIGURE 1. Plate X from the 1787 Spanish edition of Vitruvius' *De Architectura Libri Decem* [*Los diez libros de Architectura . . . traducidos . . . y commentados por Don J. Ortiz Sanz, Madrid, 1787*].

The architect Marcus Vitruvius Pollio practised in Rome, and in the service of the emperors, shortly before the beginning of the Christian era. His work *De Architectura Libri Decem* (Ten Books on Architecture), written about 25 B.C., has been translated into five or more languages. Not counting the rare manuscript copies, a few of which still exist, at least 42 editions are known to have been released prior to 1820: seventeen in Latin, issued between 1486 and 1807; two in Spanish, issued in 1602 and 1787; six in French, issued between 1547 and 1816; four in German, issued between 1548 and 1796; two in English, issued in 1771 and 1791; and eleven in Italian, issued between 1521 and 1790. One of the Spanish editions (1787) is still in the Archives at Mission Santa Barbara.

The following Latin excerpts, which illustrate the type of information available to the missionaries at Santa Barbara and the other Franciscan establishments in California, are from *Vitruvius on Architecture*, Edited from the Harleian Manuscript 2767. . . . by Frank Granger, D.Lit., A.R.I.B.A. Professor in University College, Nottingham, in two volumes; London: William Heinemann Ltd. New York, G. P. Putnam's Sons, MCMXXXI. Harleian 2767, which probably dates from the 8th century A.D., is the oldest known manuscript of Vitruvius' *Libri Decem*. It is now in the British Museum.

The English translation that follows the Latin excerpts is from *The Architecture of Marcus Vitruvius Pollio in Ten Books*, Translated from the Latin by Joseph Gwilt, F.S.A., F.R.A.S., Author of an *Encyclopaedia of Architecture and Other Works*; A New Edition, Carefully Revised by the Translator, and with Additional Plates; London, Lockwood & Co., 7, Stationers' Hall Court, Ludgate Hill 1874.

[II-III] "Itaque primum de lateribus, qua de terra duci eos oporteat, dicam. Non enim de harenoso, neque calculoso, luto neque sabuloso sunt ducendi, quod, ex his generibus cum sint ducti, primum fiunt graves, deinde, cum ab inbribus in parietibus sparguntur, dilabuntur, et dissolvuntur, paleaeque in his non cohaerescunt propter asperitatem. Faciendi autem sunt ex terra albidia cretosa sive de rubrica aut etiam masculino sabulone; haec enim genera propter levitatem habent firmitatem et non sunt in opere ponderosa et facilius aggerantur. Ducendi autem sunt per vernum tempus et autumnale, ut uno tempore siccescant. Qui enim per solstitium parantur, ideo vitiosi fiunt, quod, summum corium sol acriter cum praecoquit, efficit ut videatur aridum, interior autem sit non siccus; et cum postea siccescendo se contrahit, perrumpit ea quae erant arida. Ita rimosi facti efficiuntur imbecilli. Maxime autem utiliores erunt, si ante biennium fuerint ducti; namque non ante possunt penitus siccescere. Itaque cum recentes et non aridi sunt structi,

Informe de la Mision de la V. y M. S^{ta} Barbara sita en el Canal de la dicha S^{ta}; asi de lo espiritual, como temporal, y comprehende desde 1. de enero de 1788. hasta el dia ultimo de Junio del expresado año.

Año 1788. . . . Fabricas. No se ha fabricado cosa alguna mas que un corral de Palos parados para el ganado; y la causa ha sido la falta de viveres pa mantener a los Indios en la Mision. . . .

Fr Antonio Paterna

Fr Christoval Oramas

Informe de la Mision de la V. y M. S^{ta} Barbara, sita en el canal de la dicha S^{ta}; asi de lo espiritual, como de lo temporal, y comprehende desde el 1º de Julio de 1788; hasta el dia 31. de Diciembre del expresado año.

Año 1788. . . . Fabricas. Se ha techado, y cubierto de teja los 4. quartos, o piezas de q. se hizo mension en el primer informe, y se les han hecho sus puertas. Item: se ha cubierto de teja la casa q. servia, y sirve pa las Mugerres solteras, y Muchachas. Asi mismo se ha puesto teja a la casa q. servia a los solteros, y al presente sirve de trox. Item: se ha fabricado una casa, como de 12. varas de larگو, y 5. ancho cercada de palos, y cubierta de teja. Item: un quarto de adoves, cubierto de teja, y este sirve de cocina. Se le ha alargado a la Iglesia un pedazo, y este es de medio adove, techado con teja. . . .

P. Fr Antonio Paterna

Fr Christoval Oramas

tectorio inducto rigidoque obsolidati permanent; ipsi sidentes non possunt eandem altitudinem qua est tectorium, tenere, contractioneque moti non haerent cum eo, sed a coniunctione eius disparantur; igitur tectoria ab structura seiuncta propter tenuitatem per se stare non possunt, sed franguntur, ipsique parietes fortuito sidentes vitiantur. Ideo etiam Uticenses laterem, si sit aridus et ante quinquennium ductus, cum arbitrio magistratus fuerit ita probatus, tunc utuntur in parietum structuris. . . .

[II-IV] "In caementiciis autem structuris primum est de harena quaerendum, ut ea sit idonea ad materiem miscendam neque habeat terram commixtam. Genera autem harenae fossiciae sunt haec: nigra, cana, rubra, carbunculum. Ex his, quae in manu confricata, vel icta fecerit stridorem, erit optima; quae autem terrosa fuerit, non habebit asperitatem. Item si in vestimentum candidum ea contacta fuerit, postea excussa aut icta id non inquinari neque ibi terra subsiderit, erit idonea. Sin autem non erunt harenaria, unde fodiatur, tum de fluminibus aut e glarea erit excernenda, non minus etiam de litore marino. Sed ea in structuris haec habet vitia: difficulter siccescit, neque onerari se continenter recipit; paries patitur, nisi intermissionibus requiescat, neque concamerationes recipit. Marina autem hoc amplius, quod etiam parietes, cum in is tectoria facta fuerint, remittentes salsuginem eorum dissolvuntur. Fossiciae vero celeriter in structuris siccescunt, et tectoria permanent, et concamerationes patiuntur, sed haec, quae sunt de harenariis recentes. Si enim exemptae diutius iacent, ab sole et luna et pruina concoctae resolvuntur et fiunt terrosae. Ita cum in structuram coiciuntur, non possunt continere caementa, sed ea ruunt et labuntur oneraque parietes non possunt sustinere. Recentes autem fossiciae cum in structuris tantas habeant virtutes, eae in tectoriis ideo non sunt utiles, quod pinguitudini eius calx palea commixta, propter vehementiam non potest sine rimis inarescere. Fluviatica vero propter macritatem uti signinum liacularum subactionibus in tectorio recipit soliditatem.

[II-V] "De harenae copiis cum habeatur explicatum, tum etiam de calce diligentia est adhibenda, uti de albo saxo aut silice coquatur; et quae erit ex spisso et duriore, erit utilis in structura, quae autem ex fistuloso, in tectoriis. Cum ea erit extincta, tunc materia ita misceatur, ut, si erit fossicia, tres harenae et una calcis infundatur; si autem fluviatica aut marina, duo harenae una calcis coiciatur. Ita enim erit iusta ratio mixtionis temperaturae. Etiam in fluviatica aut marina se qui testam tunsam et succretam ex tertia parte adiecerit, efficiet materiae temperaturam ad usum meliorem. . . .

[II-VII] "De calce et harena, quibus varietatibus sint et quas habeant virtutes, dixi. Sequitur ordo de lapidicinis explicare, de quibus et quadrata saxa et caementorum ad aedificia eximuntur copiae et comparantur. Haec autem inveniuntur esse disparibus et dissimilibus virtutibus. Sunt enim aliae molles aliae temperatae nonnullae durae. . . . Sed haec omnia quae mollia sunt, hanc habent utilitatem, quod ex his saxa cum sunt exempta, in opere faciliter tractantur. Et si sunt in locis tectis, sustineant laborem, si autem in apertis et patentibus, gelicidiis et pruina congesta friantur et dissolvuntur. Item secundum oram maritimam ab salsugine exesa diffiunt neque perferunt aestus. . . .

Informe de la Mision de la V. y M. Sta Barbara, sita en el canal de la dicha Sta; asi de lo espiritual, como de lo temporal. Comprehende desde el dia 1. de Enero del año 1789. hasta el dia 31. de Diciembre del expresado año.

Año 1789. . . . Fabricas. Primerame se ha fabricado una Iglesia de 30. varas de largo, y 6. de ancho, de adoves, y cubierta de teja con su puerta. Item: una troj de 31. varas de largo, y 7. de ancho, de adoves, y cubierta de teja. Item: contigua a esta dicha un quarto de 12. vs de largo, y 7. de ancho, de adoves, y cubierto de teja. Este sirve para las Mugeres solteras, y Muchachas. Item: 2. quartos de a 5. vs de largo, y 4 y media de ancho, de adoves, y techado con teja, y sirven, el uno de gallinero, y el otro de carcel. Item: un quarto de 9. vs de largo, y 5. de ancho cercado de palos, y cubierto de teja. Este sirve pa los aparejos, y cosas pertenecientes a la arrieria. . . .

Y paraje conste &c.

Fr Antonio Paterna

Informe de la Mision de la V. y M. Sta Barbara sita en el canal del la dicha Sta asi de lo espiri^l, como de lo temporal. Comprehende desde el dia 1. de enero del año 1790. hasta el dia 31. de Diciembre del expresado año.

Año 1790. . . . Fabricas. Primerame: se han fabricado dos viviendas pa los PP. Ministros de 10. vs de largo, y 6. de ancho, repartidas en una sala de 6. vs, y una alcoba de quarto. Todas estas 4. piezas con sus puertas, y ventanas correspondientes, y cubiertas de teja. Item: un lienzo de 60. vs de largo, y 6. de ancho, repartido en 8. piezas, q. son Refectorio, Cocina, Lugar comun, casa e aparejos, Puerta, Casa de leña, Carcel, Molenderia, y casa pa Mugeres. Todo cubierto de teja, y con sus puertas, y ventanas correspondientes. Item: una pieza de 12. vs de largo, y 7. de ancho pa troj, cubierta de teja. Item: una pozolera cubierta de teja. Todas estas piezas son de adove, y enjarradas con mescla. . . .

Y paraje conste lo firmamos en esta Mision de Sta Barbara hoy dia 31. de Diciembre de 1790.

Fr Antonio Paterna

Fr Jose de Miguel

"Book the Second—Chapter III.—Of Bricks. I shall first treat of bricks, and the earth of which they ought to be made. Gravelly, pebbly, and sandy clay are unfit for that purpose; for if made of either of those sorts of earth, they are not only too ponderous, but walls built of them, when exposed to the rain, moulder away, and are soon decomposed, and the straw, also, with which they are mixed will not sufficiently bind the earth together, because of its rough quality. They should be made of earth of a red or white chalky, or a strong sandy nature. These sorts of earth are ductile and cohesive, and not being heavy, bricks made of them are more easily handled in carrying up the work. The proper seasons for brick-making are the spring and autumn, because they then dry more equably. Those made in the summer solstice are defective, because the heat of the sun soon imparts to their external surfaces an appearance of sufficient dryness, whilst the internal parts of them are in a very different state; hence, when thoroughly dry, they shrink and break at those parts which were dry in the first instance; and thus broken, their strength is gone. Those are best that have been made at least two years; for in a period less than that they will not dry thoroughly. When plastering is laid and sets hard on bricks which are not perfectly dry, the bricks, which will naturally shrink, and consequently occupy a less space than the plastering, will thus leave the latter to stand of itself. From its being extremely thin, and not capable of supporting itself, it soon breaks to pieces; and in its failure sometimes involves even that of the wall. It is not, therefore, without reason that the inhabitants of Utica allow no bricks to be used in their buildings which are not at least five years old, and also approved by a magistrate.

"Chapter IV.—Of Sand. In buildings of rubble work it is of the first importance that the sand be fit for mixing with the lime, and unalloyed with earth. The different sorts are these; black, white, deep red, and bright red. The best of each of these sorts is that which, when rubbed between the fingers, yields a grating sound. That, also, which is earthy, and does not possess the roughness above named, is fit for the purpose, if it merely leave a stain or any particles of earth on a white garment, which can easily be brushed away. If there be no sand-pits where it can be dug, river sand or sifted gravel must be used. Even sea sand may be had recourse to, but it dries

Informe de la Mision de la V. y M. Sta Barbara sita en el canal de la dicha Sta, asi de lo espiral como de lo temporal. Comprehende desde el dia 1. de enero del año 1791. hasta el dia 31. de Diciembre del expresado año. . . .

Fabricas. Se han fabricado 4. quartos. El uno de 10 vs de largo, y 6. de ancho: este sirve de guardia pa los soldados. Los tres pa guardar los instrumentos del campo, y carpinteria. Todos de adoves, y cubiertos de teja. . . .

Mision de Sta Barbara 31. de Diciembre del año 1791.

Fr Antonio Paterna

Fr Jose de Miguel

Informe de la Mion de la V. y M. Sta Barbara, sita en el Canal de la dicha Sta, asi de lo espiral, como de lo temporal, y comprehende desde el dia 1. de enero del año 1792, hasta el dia 31. de Diciembre del expresado año. . . .

Fabricas. Se han hecho dos corrales, uno pa ganado mayor, y otro pa ganado menor, ambos de piedra. El primo tiene de largo 90. vs, y de ancho 75: el segundo 75. de ancho, y 50. de largo. . . .

Mision de Sta Barbara 31. de Diciembre de 1792.

Fr Antonio Paterna

Fr Jose de Miguel

Informe del Estado de esta Mision de la Virgen y Martir Sta Barbara en 31. de Diciembre del año 1793. . . .

Fabricas. Se ha fabricado una Iglesia de adoves de 45. vs de largo, y 9. y quartos de ancho. Una sacristia de adoves de 9. vs y quarta de largo, y 5. de ancho: ambas piezas estan techadas de teja, y enjarradas de mescla por dentro y fuera. Un Portico al frontis de la Iglesia de ladrillo, y techado de lo mismo, y de teja.

Mision de Sta Barbara 31. de Diciembre de 1793.

Fr Estevan Tapis

Fr Jose de Miguel

very slowly; and walls wherein it is used must not be much loaded, unless carried up in small portions at a time. It is not, however, fit for those walls that are to receive vaulting. In plastered walls, built with sea sand, the salt which exudes destroys the plaster; but plaster readily adheres to and dries on walls built with new pit sand, and vaulting may safely spring from them. If sand have been dug a long time, and exposed to the sun, the moon, and the rain, it loses its binding quality, and becomes earthy; neither when used does it bind the rubble stones together so as to prevent them sliding on their beds and falling out: nor is it fit to be used in walls where great weights are to be supported. Though pit sand is excellent for mortar, it is unfit for plastering; for being of a rich quality, when added to the lime and straw, its great strength does not suffer it to dry without cracks. The poorness of the river sand, when tempered with beaters, makes the plastering as hard as cement. . . .

"Chapter V.—Of Lime. Having treated of the different sorts of sand, we proceed to an explanation of the nature of lime, which is burnt either from white stone or flint. That which is of a close and hard texture is better for building walls; as that which is more porous is better for plastering. When slaked for making mortar, if pit sand be used, three parts of sand are mixed with one of lime. If river or sea sand be made use of, two parts of sand are given to one of lime, which will be found a proper proportion. If to river or sea sand, potsherds ground and passed through a sieve, in the proportion of one third part, be added, the mortar will be better for use. . . .

"Chapter VII.—Of Stone Quarries. I have described the different species of lime and sand, and their qualities. Stone quarries, from which square and rubble stones are procured and prepared for the purposes of building, will now be considered. The qualities of these differ very much. Some stone is soft; . . . some moderately so. . . . Others are hard. . . . The soft species have this advantage, that when recently taken from the quarry they are easily worked, and answer well under cover; but when used in open and exposed situations, and subjected to the action of the frost and rain, they soon become friable, and moulder away. They are also much affected by the salt near the sea-shore, and are not capable of preserving their strength when exposed to great heat. . . .

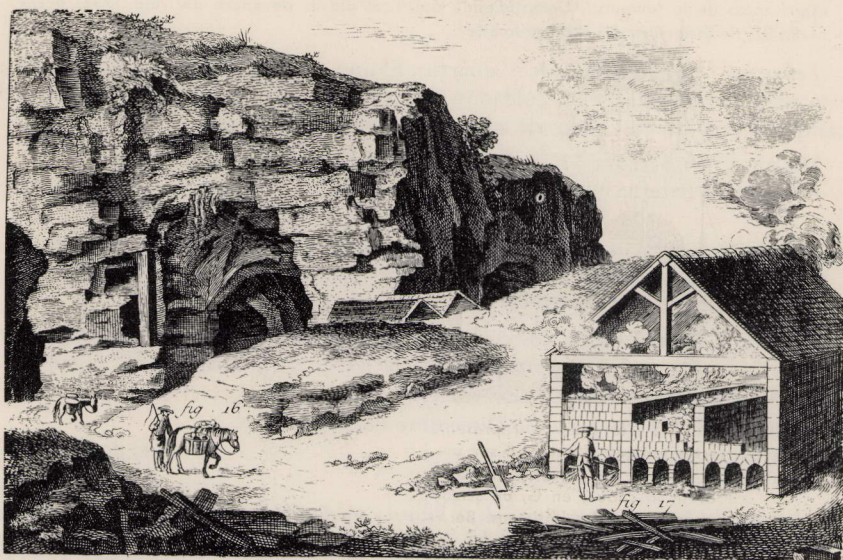


FIGURE 2. CARRIER—PLATRIER—La vignette représente une partie de carrière dans une colline escarpée; la masse en est percée par différentes rues d'où l'on a tiré la pierre de plâtre, que l'on conduit sur des bêtes de somme (fig. 16.) au four (fig. 17.) From *Encyclopédie—Recueil de planches, sur les Sciences, les Arts Libéraux, et les Arts Mécaniques, avec leur explication*, par Denis Diderot. Paris, Brisson. M. DCC. LXII. Photo courtesy of California State Library. [QUARRYMAN—The illustration shows part of a quarry in a steep hill; the mass is pierced by various openings from which the quarryman has removed the gypsum, which is transported on beasts of burden to the oven.]

Informe del estado de esta Mision de la Virgen, y Martir Sta Barbara de 31. de Diciembre del año 1794. . . .

Fabricas. Se ha hecho una Troj de adoves de 26. varas de largo, y 7. de ancho; y otra pieza tambien de adoves pa Telar, de 18. vs de largo, y 7. de ancho, con su patio de adoves de 10. vs de ancho y 18. de largo. El cimientto de estas fabricas es de piedra, y mescla. Está todo techado de teja, y la mayor parte ripliado, y revocado con mescla por afuera. Item: un cemento, o Campo Sto de adoves de 45. vs de largo, y 16. de ancho bardeado de teja. Item: un corral de adoves pa las borregas de 62. vs de largo en quadro, y de 3. de alto, y bardeado de teja. . . .

Mision de Sta Barbara 31. de Diciembre de 1794.

Fr Estevan Tapis

Fr Jose de Miguel

Informe del estado de esta Mission de la Virgen, y Martyr Sta Barbara de 31. de Diciembre de 1795. . . .

Fabricas. Se han renovado dos lienzos y medio de los tejados del quadro de la Mission, quitando vigas y marrillos de alamo, y elizo, casi todo podrido, substituyendo vigas, y marillos de pino. Se han añadido a las viviendas de los PP. Misisioneros 4. quartitos 25. varas de largo y tres ancho con tres tabiques pa dividirlos. Los dos sirven de alcobas para dormir, y los otros 2. pa estudio. estas obras son por la mayor parte de mescla, piedra, y ladrillo. . . .

Mission de Sta Barbara 31. de Diciembre de 1795.

Fr Estevan Tapis

Fr Jose de Miguel

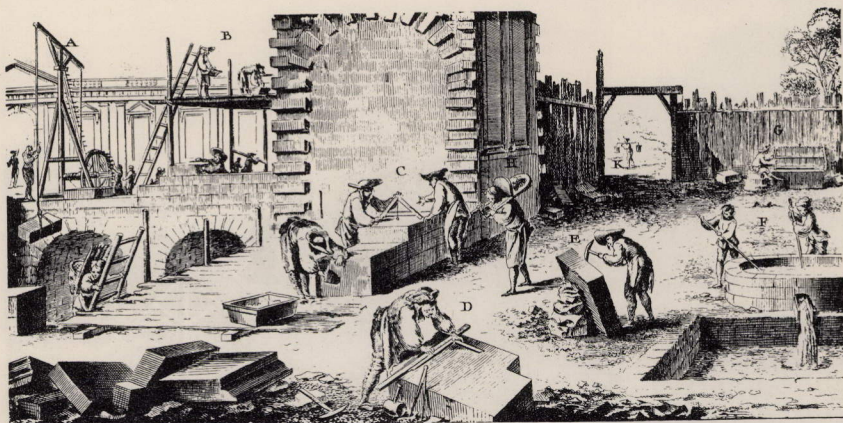


FIGURE 3. la Planche représente des maçons diversement occupés; les uns A à monter des pierres taillées; d'autres B sur un échafaut à enduire un mur de plâtre; d'autres C, à construire un ouvrage de maçonnerie. On voit en D & en E deux tailleurs de pierre; en F, ceux qui préparent la chaux; en G, un scieur de pierre; en H, I, K, les manoeuvres occupés à servir dans la construction des bâtimens. Bernard Fecit. From *Encyclopédie—Recueil de planches, sur les Sciences, les Arts Libéraux, et les Arts Mécaniques, avec leur explication*, par Denis Diderot. Paris, Brisson. M. DCC. LXII. Photo courtesy of California State Library. [This plate shows masons at their various tasks: A, raising the cut stones; B, from a scaffold, applying plaster to the wall; C, constructing a work of masonry; D and E, shaping the stone; F, preparing the lime; G, sawing the stone; H, I, K, other tasks performed during the construction of buildings.]

Informe del Estado de esta Mission de la V. y M. Sta Barbara de 31. de Diciembre de 1796.

Fabricas. Se quitaron de 6. quartos de la Mission las vigas, y. marillos de alamo, y eliso, qe por carcomidos amenazaban ruina, y se substituyeron en su lugar vigas, y marillos de pino. Quedan ya todas las fabricas de la Mission con madera de pino. Se hizo un corredor de 3. varas de ancho, y 45. de largo con pilares de ladrillo, y mezcla, y techado de teja, pa defender de las aguas a la pared que mira al Presidio. Se hizo otro corredor de 3. varas de ancho, y 18. de largo con pilares de adoves, y techado de teja, en el patio del telar; y tambien hicieron en los dos extremos del corredor dos quartitos de adoves de 3. varas de ancho, y 6. de largo.

Mission de Sta Barbara 31. de Diciembre de 1796.

Fr Estevan Tapis

Fr Jose de Miguel

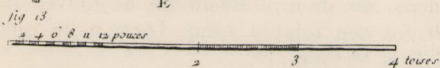
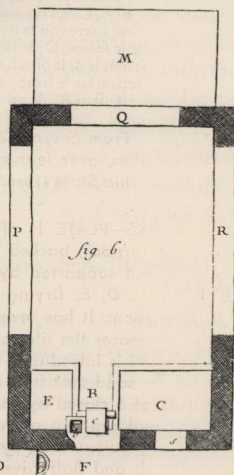
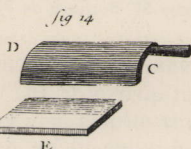
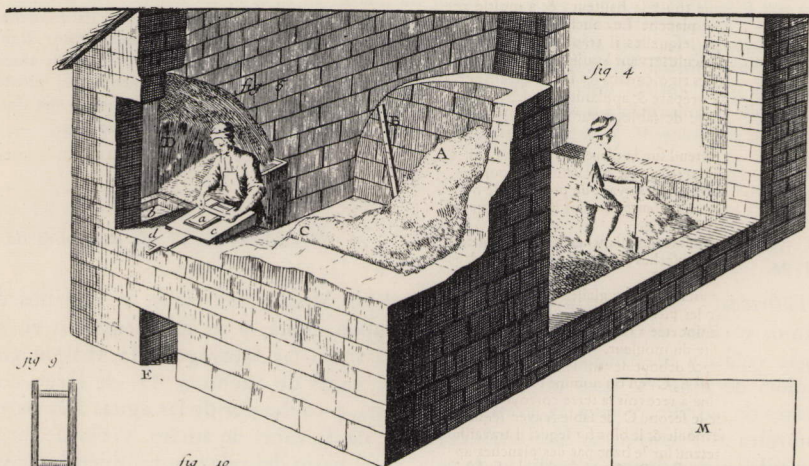
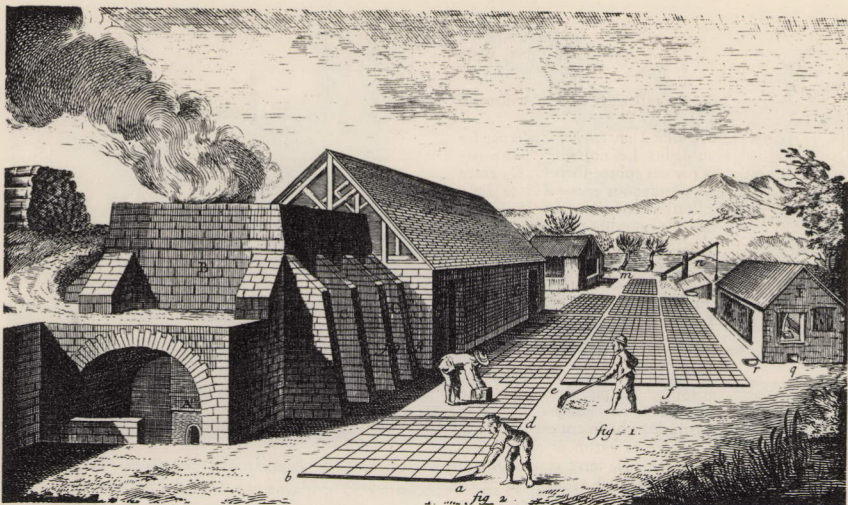
Informe del estado de esta Mission de la Virgen, y Martyr Sta Barbara de 31. de Diciembre de 1797.

Fabricas. Se han fabricado 3. troges de 25. varas cada una; un quarto de 6. varas, qe sirve de entrada a dos de las troges; un quarto de 10. vs para el jato, otro de 9. varas para la fragua, y otro de la misma medida para gallinero. Todas estas piezas tienen sus puertas, y chapas. Son de 6. vs de ancho, de adoves, revocadas por fuera con mescla, y techados con teja; y aunqe forman un quadro distinto, se entra a el por el antiguo de la Mission.

Mission de Sta Barbara 31. de Diciembre 1797.

Fr Estevan Tapis

Fr Jose de Miguel



Tuilerie

Forward 1

T U I L E R I E .

PLANCHE I^{re}

LA vignette représente une tuilerie & tous les bâtimens nécessaires.

- A, B, C, le fourneau adossé à un terrain élevé par lequel on monte au-dessus. Les murailles sont fortifiées & soutenues par des contre-forts C, C, entre lesquels il y a deux portes pour entrer dans le fourneau. Voyez l'explication de la Planche III.
- D, E, la halle dans laquelle on calibre le carreau & on le met sécher à l'ombre, ainsi que la tuile. F, moulerie. Elle a plusieurs ouvertures ou fenêtres. Le mouleur, qui est au-dedans de ce bâtiment, donne au coucheur les tuiles ou planchettes à mesure qu'il les a moulées. La fenêtre S fermée par une toile pendante, sert à introduire le sable dont le mouleur a besoin pour sécher son moule & le bloc sur lequel il travaille. L'ouverture q sert à tirer au dehors le sable qui tombe aux pieds du mouleur. Les autres ouvertures p, aussi fermées par des toiles, répondent à la partie de ce bâtiment où on marche la terre glaise. Derrière ce bâtiment est une fosse dans laquelle on détrempe la terre glaise. On voit une de ces fosses en m; elle est ordinairement entourée de glaise sèche & concassée en petits morceaux. r, tonneau ou baquet rempli d'eau, & enterré de presque toute sa hauteur, & à moitié recouvert par une planche. Le coucheur y trempe les planchettes sur lesquelles il transporte la tuile. n, petit pont & bascule servant à puiser l'eau nécessaire, qui coule par des rigoles dans les fosses à tremper.
- Fig. 1. Ouvrier qui prépare & applatit une aire ou place d, e, f, couverte de sable, pour mettre sécher les moulees.
2. Coucheur qui étend sur la place a, b, d, les tuiles ou planches de terre que le mouleur lui a fournies; il les transporte en se servant de petits ais de bois qu'on nomme aussi *planchettes*, sur les aires ou places où il les laisse sécher.
3. Leveur qui rassemble les planches ou tuiles quand elles sont presque sèches, pour les transporter dans la halle couverte D, E.
4. Ouvrier qui marche la terre glaise, c'est-à-dire qui la pétrit avec les pieds. La terre suffisamment corroyée, est transportée à la pelle sur le banc à terre qui est à droite du mouleur.
5. Le mouleur placé debout devant le bloc c, & entre les deux massifs E, C, qu'on nomme *bancs*. Le premier est destiné à recevoir la terre corroyée qu'on voit en D; & le second C, le sable A avec lequel il saupoudre le moule & le bloc sur lequel il travaille. Le sable est retenu sur le banc par des planches appuyées sur le tableau B, & un semblable fixé à la

muraille opposée. a, planchette que le mouleur applatit avec le racle. b, l'auger plein d'eau, dans lequel le mouleur met tremper le racle. d, planchette de bois avec laquelle le coucheur transporte les planches pour les faire sécher sur les aires ou places. E, ouverture par laquelle on retire le sable qui est tombé aux pieds du mouleur.

6. Plan de l'atelier du mouleur. M, la fosse où on détrempe la terre glaise. Q, fenêtre par laquelle on la jette dans la marche, qui est l'espace entre P & R. P, R, ouvertures pour entrer dans la marche: on les ferme avec des toiles. E, banc-à-terre. B, place du mouleur. C, banc à sable. s, fenêtre par laquelle on jette le sable sur le banc. c, bloc. b, l'auger. F, place du coucheur. D, tonneau ou baquet plein d'eau, dans lequel le coucheur trempe ses planchettes.
7. Moule à tuile de petit moule. Ce chassis, qui a un demi-pouce d'épaisseur, a intérieurement neuf à dix pouces de longueur sur six de large. Il a une échancrure a qui reçoit la terre avec laquelle le coucheur forme le crochet de la tuile.
8. Moule pour la tuile du grand moule. Il a sept lignes d'épaisseur, treize pouces de long & huit de large, & aussi une échancrure a pour former le crochet de la tuile.
9. Moule pour la brique. Il a intérieurement un pouce deux lignes d'épaisseur, huit pouces de long & quatre pouces de large.
10. La plane avec laquelle le mouleur étend la terre dans les moules à tuile, & dont il se sert comme l'ouvrier (fig. 5.) se sert du racle: il y en a de différentes grandeurs.
11. Moule à planche dont on fait le carreau. Il a intérieurement douze pouces de long sur six de large, & sept lignes d'épaisseur pour la planche dont on fait le carreau de petit moule. On se sert d'un plus grand pour la planche dont on fait le carreau du grand moule.
12. Racle: il est de bois, comme tous les autres outils, & sert au mouleur pour applatir la terre dont il forme les planches.
13. Planchette avec laquelle le coucheur (fig. 2.) transporte les planches de terre glaise sur les places pour les faire sécher. Il y en a de plus longues & de plus larges pour la tuile.
14. Ploir sur lequel le leveur (fig. 3.) transporte la tuile faite, & sur lequel il lui fait prendre la courbure convenable. C, la poignée du ploir. E, la tuile.

FIGURE 4. From *Encyclopédie—Recueil de planches, sur les Sciences, les Arts Libéraux, et les Arts Mécaniques, avec leur explication*, par Denis Diderot. Paris, Brisson. M. DCC. LXII. Photos courtesy California State Library.

[TILE-WORKS—PLATE I. The illustration shows a tiler, and all the necessary buildings. A, B, C, The furnace, backed against elevated ground, by which one climbs above it. The walls are braced and supported by the buttresses C, C, between which there are two doors into the furnace. . . . D, E, Drying shed, where clay products are stacked and dried in the shade. F, Moulding room. It has several openings or windows. The moulder, who is inside the building, gives the off-bearer the tiles or slabs as they are moulded. The window S, closed by a curtain, is where the sand is introduced which the moulder needs to dry his mould and the block on which he works. The sand that falls at the moulder's feet is removed through the opening q. The other openings, p, also closed by curtains, open into the part of the building where the clay is worked. Behind the building is a pit in which the clay is tempered. One of these pits can be seen at m; it is ordinarily surrounded by dried and pulverized clay. r, Cask or tub filled with water; it is nearly buried, and half covered by a board. Here the off-bearer dampens the planchettes on which he carries the tile. n, Small well-sweep for drawing up the necessary water, which flows

Informe del Estado de esta Mission de la Virgen, y Martyr Sta Barbara de 31. de Diciembre de 1798.

Fabricas. Se han fabricado de adoves, 19. quartos para otras tantas familias de Neofitos. Cada uno tiene de ancho 4. varas, y 6. 1/2. de largo. Tienen todos su puerta, y ventana para cerrar; y estan revocados por fuera con mescla, y por dentro blanqueados con lechada de cal; y techados con teja. Se ha hecho de cajon, o tapia, una cerca de 3. varas de alto, y 2100. de circunferencia, bardeada con teja, para huerta, viña, y arboles frutales.

Mission de Sta Barbara 31. de Diciembre 1798.

Fr Estevan Tapis

Fr Juan Cortes

Ynforme del estado de esta Mision de la Virgen y Martir Sta Barbara de 31. de Diciembre de 1799.

Fabricas. Se ha fabricado de Aduves una Troj de 45. varas de largo, y. 6. 1/2. de ancho, techada con teja, y revocada por dentro y fuera con mezcla.

Mission de Sta Barbara 31. de Diciembre de 1799.

Fr Estevan Tapis

Fr Juan Cortes

through small trenches into the tempering pits. Fig. 1. Worker who prepares and smoothes an area d, e, f, covered with sand, on which to dry the articles moulded. Fig. 2. The off-bearer, who lays out in the area a, b, d the tiles or slabs of clay that the moulder has turned out; he uses small wooden boards called *planchettes* to carry them to the drying area. Fig. 3. Worker who gathers the slabs or tiles when they are almost dry and puts them in the covered drying shed D, E. Fig. 4. Worker who tramples the clay, that is to say, who kneads it with his feet. The clay, when sufficiently mixed, is shoveled onto the bank of earth at the moulder's right. Fig. 5. The moulder stands before the block c, and between the two piles E and C, called *banks*. The first contains tempered clay, as shown in D; the second, C, contains the sand A, with which he sprinkles the mould and the block on which he works. The sand is held in a bank by the boards attached to the support B, and to a similar support fixed on the opposite wall. a, Slab of clay which the moulder smooths with the scraper. b, Trough filled with water, in which the moulder dips the scraper. d, Wooden paddle with which the off-bearer transports the slabs to the drying place. E, Opening for removing the sand that falls on the floor at the feet of the moulder. Fig. 6. Plan of the moulder's workshop. M, Pit where the clay is tempered. Q, Window through which the tempered clay is thrown into the workroom, which is the area between P and R. P, R, entry-ways into the trampling room; they are closed by curtains. E, Bank of earth. B, Moulder's stall. C, Bank of sand. s, Window through which sand is thrown on the bank. c, Block. b, Small trough. F, Position of the off-bearer. D, Cask or tub filled with water, in which the off-bearer dips his carrying-board. Fig. 7. Mould for small tile. Interior measurements of this frame are thickness, 1/2"; length, 9/10"; width, 6". There is a semicircular cut a that holds the clay with which the off-bearer forms the tongue of the tile. Fig. 8. Mould for large tile, 7/12" thick, 13" long, 8" wide. It has a semicircular cut a to form the tongue of the tile. Fig. 9. Brick mould. Interior dimensions thickness, 1-1/6" length, 8"; width, 4". Fig. 10. Plane with which the moulder spreads clay in tile moulds, and which he uses like the worker in fig. 5 uses the scraper. They are different sizes. Fig. 11. Wooden brick mould. The small-brick mould has interior dimensions of 12" in length by 6" in width, and is 7/12" deep. A larger mould is used for larger bricks. Fig. 12. Scraper is of wood, as are all the other tools; it is used to smooth the slab of clay. Fig. 13. Small board on which the off-bearer (fig. 2) carries the slabs of clay to the drying place. It is longer and wider for tile. Fig. 14. Shaper for carrying and curving rounded tile. C, Handle of shaper. E, The tile.]

Informe del estado de esta Mision de la Virgen y Martir Sta Barbara de 31. de Dici. de 1800. . . .

*Fabricas.** Se han fabricado 31. casas de adoves para habitacion de otras tantas familias de Neofitos, semejantes en todo á las 20 que estaban ya fabricadas. Todas estan techadas con teja, revocadas por fuera con mezcla, y blanqueadas por dentro con lechada de cal. Tienen sus puertas, y ventanas, y estan construidas en forma de calle. Tambien se han hecho corredores con pilares de ladrillo, y mezcla, techados de teja, en tres lienzos del quadro de la Mision; los cuales quedan enladrillados. . . .

Mision de Sta Barbara 31. de Diciembre de 1800.

Fr Estevan Tapis

Fr Juan Cortés

* In October of 1800 Fathers Tapis and Cortés of Mission Santa Barbara wrote to Fr. Presidente Fermin Francisco de Lasuen, defending their management of the mission, in reply to the criticism of Comandante Felipe Goycochea, who had expressed his opinion of mission affairs in answers to fifteen questions put to him by Governor Borica. The Fathers set forth their defense in *Replica de los Ministros de Sta Bárbara á la respuesta que dió el Comandante Goycochea á las quince preguntas sobre abusos de los Misioneros*, and in their comments on Goycochea's answer to question 9 presented the following data on construction work done by the neophytes:

"P 9 Que numº de horas hacen trabajar á los Yndios; y si tambien obligan ejecutarlo á las Yndias embarazadas, á las qº estan Criando, á las Viejas, y á los Ninos.

" Para qº se entienda el gran trabajo qº pondera el Sr Comº en los qº tienen tarea las explicaremos todas con claridad y distincion. A las mugeres no se les de mas tarea, q. es moler; y muele cada una en el dia 2 almº de trigo pº el Atole; y qdo es pº pan, muelen 8 y á veces 9 mugeres, 7 almº de trigo remojado. A los hombres se les da tarea en los adoves: hacen entre 9. 360 adoves de 2 tercias de largo, y una de ancho, q. repartidos en los 9 Yndios tocan 40 á cada uno. La tierra es blanda, y la agua al pié. Los q. trabajan en esta tarea jamas trabajan despues delas 11 y jamas el Sabado, y muchas veces ni el Viernes, por q. en los primeros dias de la Semana han adelantado las tareas de los ultimos. Los q. hacen teja trabajan con tarea. Se señalan 16 hombres juvenes, y á veces otros tantos medio viejos, o los qº se encuentran en la Ranchª; y toda esta gente con dos mugeres, q les acarrear arena, y boñiga, hacen 500 tejas al dia, teniendo las pilas del barro immediatas, y siempre llenas. Estos Yndios acaban su tarea antes de las onze, y no obstante adelantan siempre la tarea del Sabado, que les queda libre para pasear, ó descansar Ahora cotejaremos las de adoves, y tejas con los del Presidio. El año de 1795, pidio el Sr Comº de Presidio Dº Felipe Goycochea, 10 Yndios, pº hacer teja. Se le señalaron los 10 mas diestros, y mas utiles pº el trabajo, de los cuales casi todos actualmº viven. A los 4 dias de trabajo en el Presidio, que fue el jueves. Se quejaron qº no podian aguantar el trabajo, y qº tenian las manos, y brazos muy doloridos. Se les pregunto que tarea hacian al dia; y respondieron que 500 tejas, repartidos en arrancar el barro Echarlo á las pilas. Echarle aqua ó de un pozo de 15 vº de profundo ó de una laguna algo distante, traer dela playa qº dista del parage donde hacian la teja medio quarto de legua, y boñiga, amazar el barro; y en fin de la mañana á la noche ellos solos tenian qº dejar bien hechos 500, por tener al soldado Olivas de sobre estante para qº no se perdiese el trabajo. Parecia increíble este trabajo tan recio, ye se temia fuese algun engaño de Yndios: con todo se les con soló alen-tandolos á que continuasen el viernes repitieron con mas instª la queja, añadiendo, q. aquel dia habian hecho trabajar 525. tejas. Ya entonces se les dijo, qº tomaran pacienª el dia siguiente y qe se haria pº relevar los de tanto trabajo. Vino á Mision el mismo Sabado el Sr Comº: se le hizo presente la queja de los Yndios, y respondio, q. esta era la tarea q. antes hacian los soldados. Se le propuso qº se pusieran 10 soldados escogidos con los mismos 10 Yndios, pº ver de la mañana á la noche quienes dejaban mas teja hecha, y no convino en esto, sino en qº no bajarán mas los Yndios por tener teja sufici. En quanto á los adoves qº deve hacer el Yndio qº trabaja á jornal, dejo declarando el Sr Arrillaga al año 1793; hallandose en esta Peninsula de Governador interino, qº debian ser 50 de tarea diaria. El año proximo pasado Dº Jose Mº Ortega, quien se hallaba de Sargº, pidio peones á la Mision, para qº le hicieran adoves y se le levantara una casa fuera del Presidio. Se la concedieron con la avertencia, qº la tarea habia de ser de 50 Adoves no mas cada individuo, segun lo qº tenia declarado el mencionado Sr Arrillaga. Condescendio á la condicion, pero dio en el arbitrio de mandar hacer una adovera de 3 quartas de largo, y media vara de ancho, y á proporcion mas alta que las ordinarias, qº han sido en la tierra de dos tercias de largo, y una de ancho. La agua tenian qº sacar de un pozo de mas de 12 varas de profundidad. De estas 2 tareas y acabamos de referir, podra juzgar

Ynforme del estado de esta Mision de la Virgen, y Martir Sta Barbara del año 1801. . . .

Fabricas. Se han fabricado 31. casas de adoves para habitacion de otras tantas familias de los Neofitos, en todos semejantes a las 51. que en los dos años anteceds se habian fabricado. Tambien se ha hecho otra casa de 21. varas de largo, y 6. de ancho, con su corredor; repartida en recamara, sala, cocina, y gallinero, techado todo con teja, y revocado con mezcla. . . .

Mision de Sta Barbara 31. de Diciembre 1801.

Fr Estevan Tapis

Fr Juan Cortes

Ynforme del estado de esta Mision de la Virgen y Martir Sta Barbara del año 1802. . . .

Fabricas. Se han fabricado 31. casas de adoves para habitacion de otras tantas familias de los Neofitos, en todo semejantes a las 82, que en los 3. años anteceds se habian fabricado, y todas quedan cercadas por tres vientos con tapia de 3. vs de alto, quedando dentro la cerca bastante campo para las casas que faltan. Tambien se ha fabricado de tapia, y adoves una pieza de 20. varas de largo, y 6. de ancho con 5. pilas de ladrillo y mezcla para curtir baquetos, y baquetillos; y contigua a esta, se ha hecho una casa para el Mayordomo de 18. varas de largo, y 6. de ancho, repartida en cocina, sala, y recamara, todo con corredor. Ultimame se construyeron de tapia, y adoves 5. quartos para varios usos necesarios en la Mision, que por todos tienen 40. varas de largo, y 6. de ancho. . . .

Mision de Sta Barbara 31. de Diciembre 1802.

Fr Estevan Tapis

Fr Juan Cortes

Ynforme del Estado de esta Mision de la Virgen, y Martir Sta Barbara del año 1803. . . .

Fabricas. Se han fabricado 48 Casas de adoves para habitacion de unas tantas familias de los Neofitos, en todo semejantes a las 113. qe en los años anteceds se habian fabricado, y amas una Yglesia, en una Rancheria distante dos legs de la Mision, llamada San Migl de 22 Vars de largo, y 9 de ancho, incs las pareds. . . .

Mision de Sta Barbara, 31 de Diciembre de 1803.

Fr Estevan Tapis

Fr Juan Cortés

Ynforme del Estado de esta Mision de la Virgen, y Martir Santa Barbara del año de 1804. . . .

Fabricas. Se han fabricado 37. Casas de adobes para habitacion de otras tantas fams de los Neofitos en todo semejantes a las 161. qe en los años anteceds se habian fabricado, y ha mas un patio grande de Cajon para varios usos de los Neofitos. . . .

Mision de Sta Barbara, y Diciembre 31 del año del Señor de 1804.

Fr. Juan Cortes

Fr. Marcos Amestoy

qualquiera desapasionado: qe trabajo ha de causar mas compasion; si el qe sufren, los Yndios en la Mision, ó el qe sufren en el Presidio? Todas las mugeres, q. se consideran utiles, contribuyen al acarreo de adoves, qe no da abasto una carreta q. se destina p: esto desde el principio de qualquiera fabrica, la q. muchas veces basta, por hacerse siempre los adoves cerca de las fabricas. Las mismas mug: contribuyen el acarreo de ladrillo, y teja, poquissimas veces de piedra, y esta chica p: emparejar los cimientos. El acarreo de lo demas p: las fabricas es obra de los gañanes con sus bueyes, y de los arrieros con sus mulas. De los chiquillos q. tienen mas de 9. años de edad, unos se ocupan en escarmenar lana en los telares, y dar la lanzadera con canilla a los tejedores, otros en cuidar de dia la teja, y ladrillos, q. no los pisen los animales, otros en espantar los pajaros, y los mas en divertirse con sus juegos pueriles. . . . Mision de Sta Barbara 30 de Octubre de 1800. . . . Fr. Esteban Tapis—Fr. Juan Cortes. . . . Es copia del original. Fr. Esteban Tapis." From *Santa Barbara Archives*, vol. 2, Bancroft Library, University of California.

Ynforme de esta Misⁿ de S^ta Barbara del año 1805.

Fabricas. Se han fabricado dos piezas grandes para troxas y una del mismo tamaño para madera, y 36. casas para los Yndios con sus puertas y Ventanas en todo semexantes á las de los años pasados, y son por todas 234.

Misⁿ de S^ta Barbara, y Diciembre 31 de 1805.

Fr Marcos Amestoy

Fr Marcos Ant^o de Vitoria

Ynforme dela Misⁿ de S^ta Bárbara del año 1806.

Fabricas. Se ha fabricado un Tanque para recoger agua de 40 varas quadradas de ancho y 2 y media de alto todo de piedra y mezcla.

Mision de S^ta Bárbara y Diciembre 31 de 1806

Fr. Marcos Amestoy.

Fr. José Ant^o Urresti

Ynforme dela Mision de S^ta Bárbara del año de 1807.

Fabricas. Se han fabricado 18 casas de la Rancheria en todo semejantes a las de los años pasados y son 252. . Tan se han fabricado 4 casas con su cuerpo de guardia. Tbⁿ una Presa de Cal y Canto.

Mision de S^ta B^a y Diciembre 31 de 1807.

Fr. José Ant^o Urresti.

Fr. Marco Amestoy

Ynforme de la Mision de S^ta. Barbara V. y M. del año de 1808.

Fabricas. Se ha fabricado una Fuente con su Labadero en beneficio de la humanidad, y una casa pa la Alfahareria. De lo qe esta comenzado, se dariá razon el año qe viene.

Mision de S^ta. Barbara y Diziembre 31 de 1808.

Fr. Marcos Amestoy

Fr Luis Gil de Taboada

Ynforme de la Mn de S^ta Barba del año de 1809.

Fabricas. Se ha aumentado por la parte qe mira á la mar la habitⁿ de los ps Mintros con pared de cal, y canto, y techo de Azoteas.

Mn de S. Barba y Dbre. 31 de 1809.

Fr. L. G. de T.

Fr. Marcos Amestoy

Ynforme anual de la Misⁿ de S^ta. Barba en 31 de Dbře. de 1810.

Fabricas. Se continua la qe se dixo el año pasado.

Mision de Sta. Barba y Dbře. 31 de 1810.

Fr. N

Fr. N

Ynforme anual de la Mision de S^ta. Barbara en 31 de Dbře de 1811.

Fabricas. Se há concluido la habitⁿ de los ps Mintros. qe se dixo el año 1809. con corredor de Arqueria de Piedra; y se ha comensado el frontispicio de la S^ta. Yga del se dará razon quando se finalize.

Misⁿ de S^ta. Barba Dbře. 31 de 1811.

F. L. G. y F. M. A.

Ynforme anual de la Mision de S^ta Barbara en 31 de Dbre de 1812.

Fabricas. Con los terribles terremotos del 21 de Dbře. y dias subsequentes há quedado la Mision bastantemte averiada, de suerte que todas sus Fabricas exigen exactos reconocimtos y algo dilatadas composiciones, especialmte la S^ta Yglesia, que, previa la licencia del Gobierno es regular qe se haga nueva pr qe comparados los trabajos qe deben emprehenderse en su composicion con los de la reedificacion

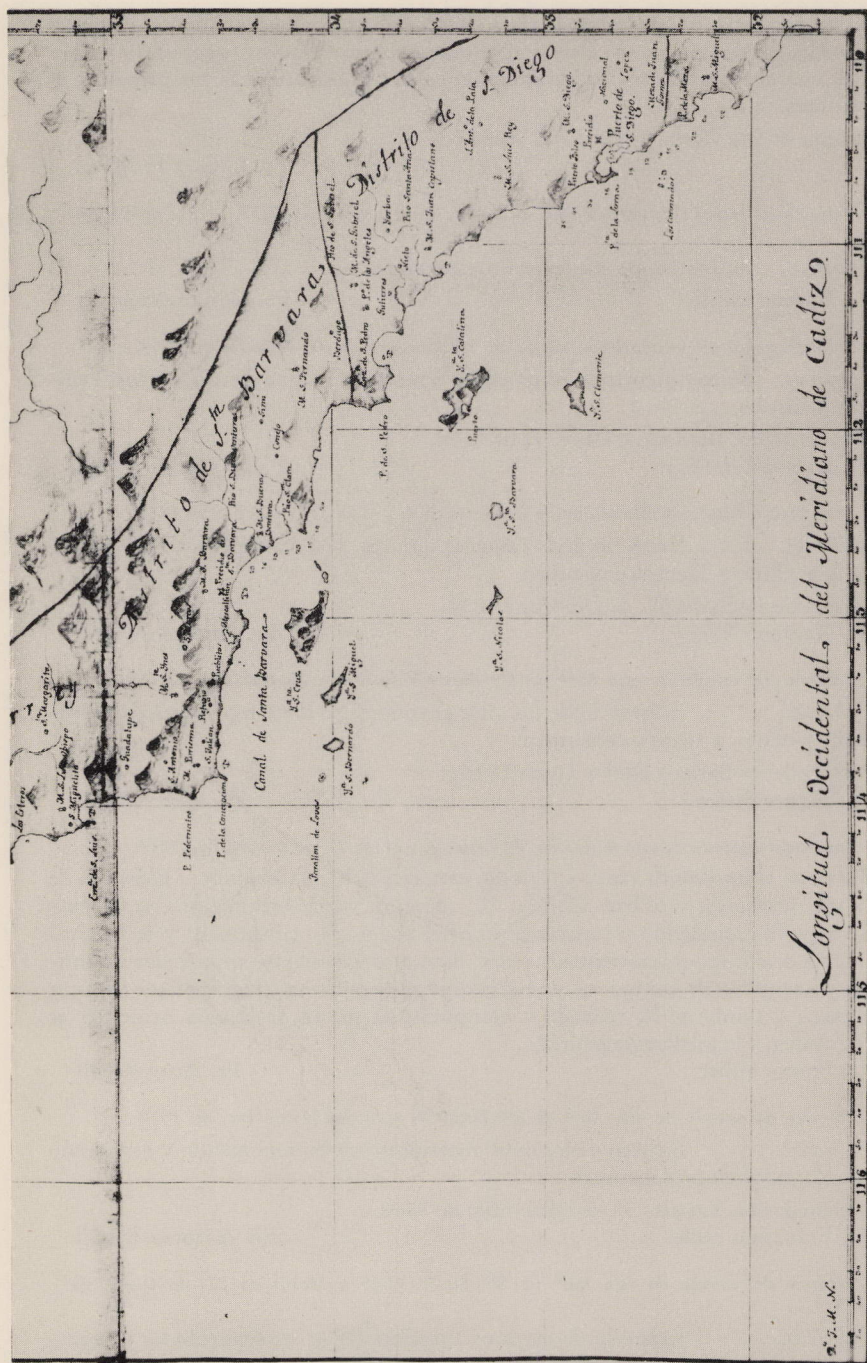


FIGURE 5. MAP OF ALTA CALIFORNIA, BY JOSE M. NARVAEZ. 1830. From the collection of the California State Library.

casí equiponderan pr añadiendo la poca satisfacion qe nos quedará de unas paredes remendadas, con la gñe. qe deben producirnos, unas nuevas, gruesas de cal, y canto, con sus respectivos solidisimos cimientos, ponderan mas los primeros qe los ultimos.

Mision de Sta. Barb. y Dbre. 31. de 812.

Fr. L. G. y F. M. A.

*Ynforme del estado de esta Mision de Sta Barbara en el Año 1813. = 31. de Diciem-
bre.*

Fabricas. Subsisten las de los Años anteriores.

Fr. Ramon Olbès

Fr. Marcos Amestoy

Ynforme anual del estado de la Mision de Sta. Barbara en 31 de Dbre. del 1814.

Fabricas. Se reedificó todo lo qe en la Rancheria habian derribado los Tem-
blores, y lluvias.

Mision de Sta. Barbara, y Dbre. 31 de 1814.

Fr. Luis Gil de T

Fr. Ramon Olbès

Ynforme del Estado de esta Mision de Sta Barbara V. y M en 31. de Dicbre de 1815.

Fabricas. Existe lo de los años anteriores, y se va reponiendo, y repar-
ando lo qe el uso y Tiempo consumen.

Mision de Sta Barba 31. de Dicbre de 1815.

Fr. Ramon Olbès

Fr. Antonio Ripoll

Ynforme del estado de esta Misⁿ de Sta Barba V. y M. en 31 Dicbre de 1816.

Fabricas. Existen lo de los años anteriores, y se va reponiendo y repar-
ando lo qe el uso, y tiempo consumen.

Mision de Sta Barba y Dicbre 31. de 1816.

Fr. Franco Suñer

Fr. Anto Ripoll

Ynforme del estado de esta Mision de Sta Barba V. y M. en 31. de Diciemb. de 1817.

Fabricas, utensilios de casa, y Campo, arrieria, hato, y Carpinta. Existe lo de los años anteriores; y se han añadido 20. aparejos, varias erramientas de carpinteria, y se va reponiendo y reparando lo qe el uso y tpo. consumen; y se levantó un lienzo de adove, qe contiene un atrox, hato, y unos cuartos pa guardar erramientas y utensilios de campo, qe ya hacia alg^s años se havia caydo por ser viejo, y de caxon; y tambⁿ se ha techado y compuesto la mitad de la casa principal qe era de asotea, y la madera ya podrida.

Fr. Franco Suñer

Fr. Anto Ripoll

Ynforme del estado de esta Misⁿ de Sta Barba V. y M. en 31. de Dic. de 1818.

Fabricas. Existen de los años anteriores y se ba reponiendo y reparando lo que el uso y tiempo consumen.

Mision de Sta. Barbara 31 de Diciembre de 1818.

Fr. Francisco Suñer

Fr. Antonio Ripoll

Ynforme del estado de esta Misⁿ de Sta Barba Virgⁿ y Martir en 31. de Dicbre de 1819

Fabricas. Existe lo de los años anteriores, y se va reponiendo, y repar-
ando, lo qe el uso y tpo consumen.

Mision de Sta Barba y 31 de Dicbre de 1819.

Fr. Franco Suñer

Fr. Anto Ripoll

Ynforme del estado de esta Misⁿ de Sta Barbara Virgen y M. en 31. Dicbre de 1820. . . .

Yglesia y Sacristia. La Ygla actual de esta Misⁿ comenzada en el año 1815. se concluyo el presente año, cuya bendicⁿ se celebrad^o o verificó el dia 10. de Septbre del mismo; es de piedra labrada y mezcla, de paredes muy reforzadas, y buenos estribos, con su torre correspondte de dos cuerpos, en donde se mantienen seis campanas, y tres de ellas esquilas; es de cielo raso enjarrado de yesomate con sus pinturas regulares jaspeadas las columnas, y mesas de los Altares á la Romana qe son tres incluso el mayor, y en una de aquellas el pulpito correspondte. Se puso en el frontis la Ymagen de la Patrona Sta Barbara, en un nincho como sostenida de seis columnas, y en los remates del triangulo se han colocado las tres virtudes de Fé, Esperanza, y Caridad, cuyas cuatro figuras son todas de piedra labrada, y pintadas al oleo, y el piso de la Ygla as de betun bruñido por lo qe queda muy aseada, con esto, y varios adornos qe se han puesto asi en la Ygla como en la Sacristia parece queda agradable á la vista, fuerte, y aseada. . . .

Fabricas. Existe lo de los años anteriores, y se va reponiendo, y reparando lo qe el uso y tiempo ha consumido.

Mision de Sta Barba y 31. Diciembre de 1820.

Fr. Franco Suñer

Fr. Anto Ripoll



FIGURE 6. RECEPTION OF LA PÉROUSE AT CARMEL MISSION. See also fig. 8. Figures 6-11 from the collection of the Museo Naval, Madrid, courtesy of Julio F. Guillen, Capitán de Navío.

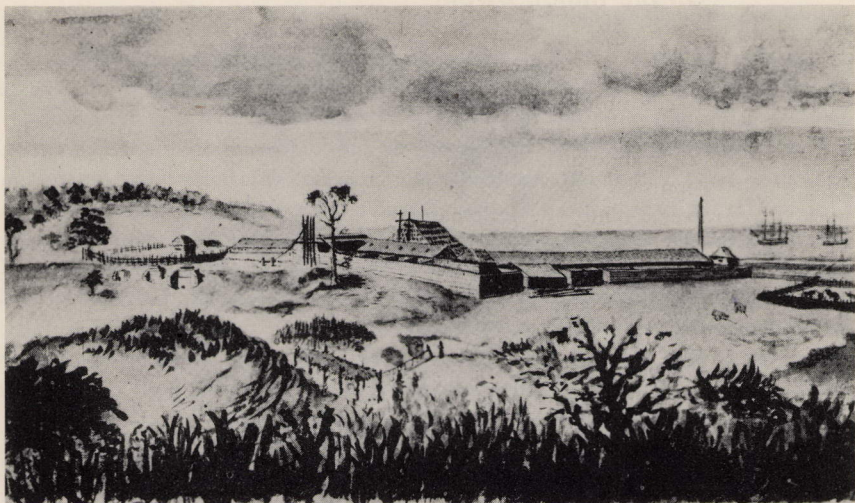


FIGURE 7. VISTA DEL PRESIDIO DE MONTERREY. BRAMBILA. 1794. [View of the presidio of Monterrey.] Reproduced from *Museo Naval Publicaciones I*, Año 1932, by courtesy of the Museum.



FIGURE 8. RESIVIMIENTO DEL CONDE DELA PEI RUS EN LA MISION DEL CARMELO MONTEREI. BRAMBILA. 1794. Reproduced from *Museo Naval Publicaciones I*, Año 1932, by courtesy of the Museum.

JEAN-FRANÇOIS GALAUP DE LA PÉROUSE
On the Indian Dwellings at Carmel Mission

September 1786 *

[English translation is on page 168.]

. Le 7, le brouillard fut encore plus épais que le jour précédent; il s'éclaircit cependant vers midi, et nous vîmes des sommets de montagnes dans l'est, à une assez grande distance. Comme notre route avait valu de sud, il est évident que, depuis les 42^d, la côte commence à fuir dans l'est. Notre latitude nord fut observée à midi; elle était de 40^d48'30": notre longitude occidentale, suivant les horloges, était de 126^d59'45". Je continuai à faire route pour approcher la terre, dont je n'étais qu'à quatre lieues à l'entrée de la nuit. Nous aperçûmes alors un volcan † sur la cime de la montagne qui nous restait à l'est; la flamme en était très-vive: mais bientôt une brume épaisse vint nous dérober ce spectacle; il fallut encore s'éloigner de terre. Comme je craignais, en suivant une route parallèle à la côte, de rencontrer quelque isle ou rocher un peu

"The first intercourse of the Californians with subjects of a foreign power was with the French under Jean François Galaup de La Pérouse in the autumn of 1786. This distinguished navigator had sailed from Brest in August 1785 on the frigate *Boussole* with the *Astrolabe* under M. de Langle, on a scientific exploring expedition round the world, fitted out and despatched by the French government. A full corps of scientific specialists accompanied the expedition; minute and carefully prepared instructions were given, accompanied by reports and charts of all that had been accomplished by the explorers of different nations; the commanders were carefully selected for their ability and experience; and in fact every possible precaution was taken to make the trip a success. . . . Having doubled Cape Horn, visited Easter Island and the Hawaiian group, the *Boussole* and *Astrolabe* crossed to the American coast, anchoring July 4, 1786, in the Port des Français in 58° 37'. . . . On the voyage southward no observations were made on the California coast on account of the dense fogs, save that one night there was seen what seemed to be a volcano in active operation below 41°, until they entered Monterey Bay September 14th, anchoring next day among the whales which came boldly within pistol-shot to spout vile-smelling water round about the vessels. . . . During the brief stay of ten days the crew were busy in obtaining wood and water; while the botanists, geologists, and other specialists pursued their studies, made drawings, and gathered specimens. . . . On the 22^d all was ready for departure, and farewell was said to governor and missionaries. Next day the winds were contrary, but early on the 24th the navigators . . . set sail for the far west. . . . Crossing the Pacific the Frenchmen visited the Philippine Islands in February 1787; then they coasted Japan and China, and reached Kamchatka in September; at the Navigator Islands in December, M. de Langle, with eleven of his men, was killed by the Indians; and the last that was ever known of vessels, commander, or crew, they were at Botany Bay on the coast of New Zealand, where La Pérouse's journal ends with January 24, 1788, a subsequent letter being dated February 8th, at the same place." H. H. Bancroft, *History of California*, vol. I, 1542-1800, pp. 428-433, 1884.

* From *Voyage de La Pérouse Autour du Monde, Publié Conformément au Décret du 22 Avril 1791, et Rédigé par M. L. A. Milet-Mureau, Général de Brigade dans le Corps du Génie, Directeur des Fortifications, Ex-Constituant, Membre de Plusieurs Sociétés Littéraires de Paris. Tome Premier, Tome Second, Tome Troisième, Tome Quatrième. A Paris, Chez Plassan, Imprimeur-Libraire, Rue de Cimetière André-des-Arcs, n° 10. L'an vi de la République.—1798.*

† ". At half-past seven, we suddenly discovered, to the south-south-east, a considerable fire on Cape Mendocino; this fire covered the greater part of the hill, from the sea-shore to the summit, and it appeared to extend to the other side. . . .

"Accurate inquiries at Saint Francisco, convinced me that this fire, which, at a distance, might have been taken for a volcano, must be ascribed to the Indians, as well as other less considerable, and more distant ones, which we saw that and the preceding nights. The natives at this season, set fire to the grass, to dry the pods of a grain which they use for food, to render it more easy to gather. It was, doubtless, this circumstance, which was unknown to our illustrious La Pérouse, and that was the cause of his error, when seeing a great fire on Cape Mendocino, about the same time of the year, he thought it was a volcano. . . ." Camille de Roquefeuil, September 1818; from *A Voyage Round the World Between 1816-1819. By M. Camille de Roquefeuil, in the Ship Le Bordelais. London: Printed for Sir Richard Phillips and Co. Bride-Court, Bridge-Street. 1823.*

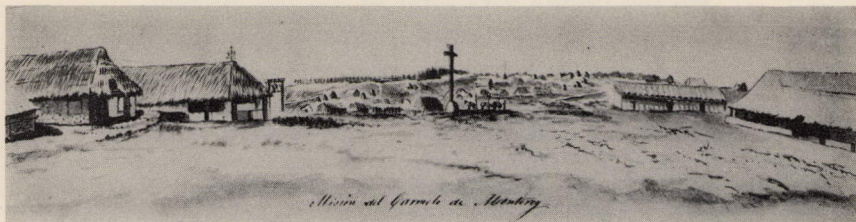


FIGURE 9. MISION DEL CARMELO DE MONTEREY. Reproduced from the collection of the Museo Naval, Madrid, by courtesy of the Museum.

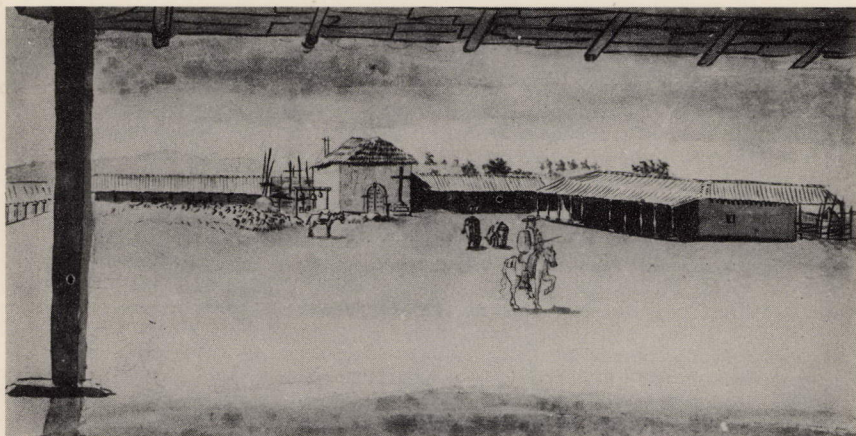


FIGURE 10. PLAZA DEL PRESIDIO DE MONTE-REY. Reproduced from the collection of the Museo Naval, Madrid, by courtesy of the Museum.



FIGURE 11. VISTA DEL CONVENTO, YGLECIA, Y RANCHERIAS DE LA MISION DEL CARMELO. [View of the convent, church, and rancherias of Carmel Mission.] Reproduced from the collection of the Museo Naval, Madrid, by courtesy of the Museum.

écarté du continent, je pris la bordée du large. La brume fut très-épaisse. . . .
 A trois heures après [14 Septembre 1786], nous eûmes connaissance
 du fort de Monterey, et de deux bâtimens à trois mâts qui étaient dans la
 rade.

Il est remarquable que, pendant cette longue traversée, au milieu des brumes
 les plus épaisses, l'Astrolabe navigua toujours à la portée de la voix de ma frégate,
 et ne s'en écarta que lorsque je lui donnai l'ordre de reconnaître l'entrée de
 Monterey.

. La paroisse est fort propre, quoique couverte en chaume; elle est
 dédiée à saint Charles, et ornée d'assez bonnes peintures, copiées sur des originaux
 d'Italie.

. La maison des missionnaires, . . . est en face de la paroisse, ainsi que
 les différens magasins. Sur la droite est placé le village indien, composé d'environ
 cinquante cabanes qui servent de logement à sept cent quarante personnes des
 deux sexes, les enfans compris, qui composent la mission de Saint-Charles ou
 de Monterey.

Ces cabanes sont les plus misérables qu'on puisse rencontrer chez aucun
 peuple; elles sont rondes, de six pieds de diamètre sur quatre de hauteur; quelques
 piquets de la grosseur de bras, fixés en terre, et qui se rapprochent en voûte par
 le haut, en composent la charpente; huit à dix bottes de paille mal arrangées
 sur ces piquets garantissent bien ou mal les habitans de la pluie ou du vent, et
 plus de la moitié de cette cabane reste découverte lorsque le temps est beau: leur
 seule précaution est d'avoir chacun, près de leur case, deux ou trois bottes de
 paille en réserve.

Cette architecture générale des deux Californies n'a jamais pu être changée
 par les exhortations des missionnaires; les Indiens disent qu'ils aiment le grand
 air, qu'il est commode de mettre la feu à sa maison lorsqu'on y est dévoré par
 une trop grande quantité de puces, et d'en pouvoir construire une autre en
 moins de deux heures. Les Indiens indépendans, qui changent se fréquemment de
 demeure, comme les peuples chasseurs, ont un motif de plus.



FIGURE 12. THE MISSION OF ST CARLOS, NEAR MONTERREY. W. Alexander del: from a Sketch taken on the Spot by J. Sykes; B. T. Pouncy Sculp^t London. Published May 1st 1798, by R. Edwards New Bond Street J. Edwards Pall Mall & G. Robinson Pater noster Row. Photo by courtesy of California State Library.



FIGURE 13. THE PRESIDIO OF MONTERREY. W. Alexander del: from a Sketch taken on the Spot by J. Sykes; B. T. Pouncy Sculp^t London. Published May 1st 1798, by R. Edwards New Bond Street J. Edwards Pall Mall & G. Robinson Pater noster Row. Photo by courtesy of California State Library.

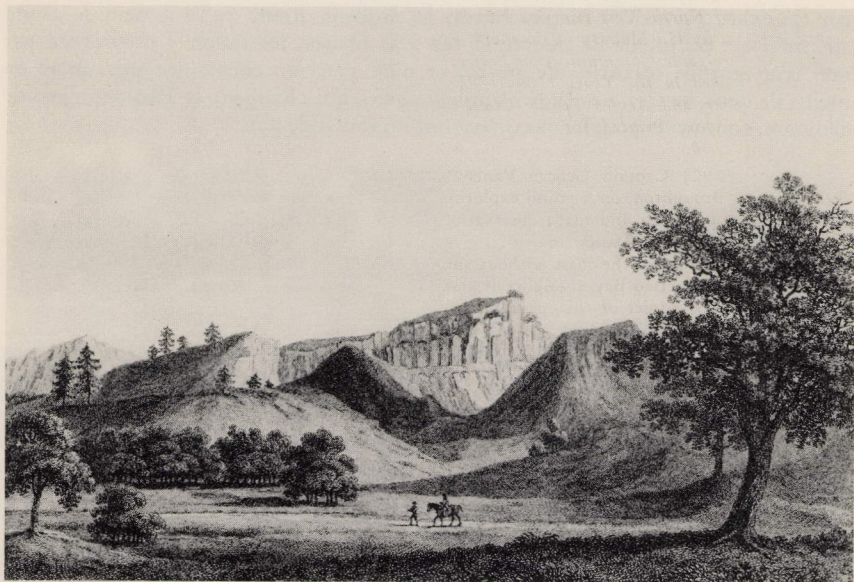


FIGURE 14. A REMARKABLE MOUNTAIN NEAR THE RIVER OF MONTERREY. W. Alexander del: from a Sketch taken on the Spot by J. Sykes; B. T. Pouncy Sculp^t London. Published May 1st 1798, by R. Edwards New Bond Street J. Edwards Pall Mall & G. Robinson Pater noster Row. Photo by courtesy of California State Library.

CAPTAIN GEORGE VANCOUVER
On the Use of Stone at Carmel Mission

1792-94 *

1792.
November. The decks of the *Discovery*, in consequence of the late inclement weather, were found to be excessively leaky, and to require caulking; many of the sails wanted material repair: these, with various other services, were put in a train of execution. On board the *Chatham* all were busily employed, particularly in recruiting their stock of provisions; as, in consequence of my former intention, no more had been received on board than would be absolutely necessary for her passage home; it now however became requisite that both vessels should receive from the *Daedalus* as large a proportion of stores, provisions, &c. as each was capable of stowing.

December.
Sunday 2. Having given proper directions for carrying these several services into effect, on Sunday the 2d of December, in consequence of a very polite invitation, I paid my respects to the mission of St. Carlos, accompanied by Senr Quadra, Senr Arguella, Senr Caamano, Mr. Broughton, and several other English and Spanish officers.

The establishment is situated about a league to the south-eastward of the presidio of Monterey. The road between them lies over some steep hills and hollow vallies, interspersed with many trees; the surface was covered over with an agreeable verdure; the general character of the country was lively, and our journey altogether was very pleasant.

* From *A Voyage of Discovery to the North Pacific Ocean, and Round the World; In Which the Coast of North-West America Has Been Carefully Examined and Accurately Surveyed. Undertaken by His Majesty's Command, Principally With a View to Ascertain the Existence of Any Navigable Communication Between the North Pacific and North Atlantic Oceans; and Performed in the Years 1790, 1791, 1792, 1793, 1794, and 1795, in the Discovery Sloop of War, and Armed Tender Chatham, Under the Command of Captain George Vancouver.* London: Printed for G. G. and J. Robinson, Paternoster-Row; and J. Edwards, Pall-Mall. 1798.

"In April [1792] Captain George Vancouver in the *Discovery* with the *Chatham* under Lieutenant Broughton, on a grand exploring voyage round the world, had crossed over from the Sandwich Islands and made observations on the California coast as he sailed northward from just below Cape Mendocino. . . . Six months later, coming from Nootka, the English navigator sailed down the coast without anchoring, and on November 14th, in the *Discovery*, entered San Francisco Bay at nightfall and anchored in front of Yerba Buena Cove. . . . On the 16th by advice of the Spaniards . . . the *Discovery* was transferred to the usual anchorage nearer the presidio. . . . Vancouver's reception at San Francisco was most cordial and satisfactory. . . . On the 20th of November [he] and seven of his officers made an excursion on horseback to Santa Clara, being the first foreigners who had ever penetrated so far into the interior. . . . After most hospitable treatment by fathers Peña and Sanchez at Santa Clara, they returned to San Francisco on the 22d. The *Chatham* had meanwhile arrived, and preparations were hastened for departure. . . . The two vessels sailed away the 26th and anchored next morning at Monterey.

"Vancouver found lying at anchor in the harbor of Monterey the *Daedalus*, his store-ship which had joined the fleet at Nootka. . . . The *Discovery* and the *Chatham* remained at Monterey for about fifty days for reloading and repairs. A tent and observatory for astronomical observations were set up on the beach, and the *Daedalus* sailed in December for New South Wales.

"Vancouver and party went over to San Carlos the 2d of December, and were hospitably entertained, as La Pérouse had been six years before, by President Lasuen and the other friars. . . . January 15, 1793 . . . the . . . English [ships] disappeared in the southwest behind Point Pinos and left to Monterey its usual solitude." *H. H. Bancroft, History of California*, vol. 1, 1542-1800, pp. 510-513, 1884.

1792.
December. Our reception at the mission could not fail to convince us of the joy and satisfaction we communicated to the worthy and reverend fathers, who in return made the most hospitable offers of every refreshment their homely abode afforded. On our arrival at the entrance of the mission the bells were rung, and the Rev. Fermin Francisco de Lasuen, father president of the missionaries of the order of St. Francisco in New Albion, together with the fathers of this mission, came out to meet us, and conduct us to the principal residence of the father president. This personage was about seventy-two years of age, whose gentle manners, united to a most venerable and placid countenance, indicated that tranquillized state of mind, that fitted him to an eminent degree for presiding over so benevolent an institution.

The usual ceremonies on introduction being over, our time was pleasantly engaged in the society of the father president and his two companions, the priests regularly belonging to the mission of St. Carlos, who attended us over their premises. These seemed to differ but little from those at St. Francisco,* or St. Clara; excepting that the buildings were smaller, the plan, architecture, and materials exactly corresponding.

In their granaries were deposited a pretty large quantity of the different kinds of grain before noticed at the other establishments, to which was added some barley, but the whole was of an inferior quality, and the return from the soil by no means equal to that produced by St. Clara. Here also was a small garden on the same confined scale, and cultivated in the same manner as observed at the other stations.

An Indian village is also in the neighborhood; it appeared to us but small, yet the number of its inhabitants under the immediate direction of this mission was said to amount to eight hundred, governed by the same charitable principles as those we had before visited. Notwithstanding these people are taught and employed from time to time in many of the occupations most useful to civil society, they had not made themselves any more comfortable habitations than those of their forefathers; nor did they seem in any respect to have benefitted by the instruction they had received. Some of them were at this time engaged under the direction of the fathers, in building a church with stone and mortar. The former material appeared to be of a very tender friable nature, scarcely more hard than indurated clay; but I was told, that on its being exposed to the air, it soon becomes hardened, and

* Archibald Menzies, who accompanied Captain George Vancouver on his voyage around the world, during which they several times touched the shores of Upper California, describes the Presidio of San Francisco as he saw it in 1792:

"It is situated on a gentle declivity about a quarter of a Mile from the sea side, & occupied a square space of ground about four hundred Yards on each side, walled in on three sides with Turf or Mortar Wall of twelve or fourteen feet high & rudely fenced in on the other or Eastern side with a dead hedge. The Walled part is lined on the inside with a row of shabby mean houses irregularly built of the same materials & thatched with coarse long grass & bulrushes, as Habitations & Store houses for the Soldiers & their Families who were about thirty six in number under the command of the Governor as Commandant & a Serjeant. The Commandant's own dwelling could hardly be distinguished from the rest till we got on the inside of it, & then the friendly treat & hearty welcome we received from his Lady & Family made ample recompense for the poverty of its exterior appearance.

"The Houses & Wall of the Proesidio were built of Turf & Mortar in the form of large Bricks workd up & incorporated with Straw or Grass & afterwards dried in the Sun till they became hard & appeared to be durable." From the *Journal* of Archibald Menzies, published in part in the *California Hist. Soc. Quart.* vol. 2, no. 4, Jan. 1924, by Miss Alice Eastwood.

is an excellent stone for the purpose of building. It is of a light straw colour, and presents a rich and elegant appearance, in proportion to the labour that is bestowed upon it. It is found in abundance at no great depth from the surface of the earth; the quarries are easily worked, and it is I believe the only stone the Spaniards have hitherto made use of in building. At Sta Clara I was shown a ponderous black stone, that father Thomas said was intended to be so appropriated as soon as persons capable of working it could be procured. The lime they use is made from sea shells, principally from the ear shell, which is of a large size and in great numbers on the shores; not having as yet found any calcareous earth that would answer this essential purpose. The heavy black stone is supposed to be applicable to grinding, and should it be found so to answer, it will be a matter of great importance to their comfort, since their only method of reducing their corn to flour is by two small stones placed in an inclined position on the ground; on the lower one the corn is laid, and ground by hand by rubbing the other stone nearly of the same surface over it. The flour produced by this rude and laborious process makes very white and well tasted, though heavy bread, but this defect is said by the Spaniards to be greatly remedied when mixed with an equal proportion of flour properly ground.

1792. The present presidio [Monterey] is the identical one that
December. was built on the first establishment of this port in the year 1770, without having undergone the least improvement or alteration since that period. The buildings of the presidio form a parallelogram or long square, comprehending an area of about three hundred yards long, by two hundred and fifty yards wide, making one intire inclosure. The external wall is of the same magnitude, and built with the same materials; and except that the officers apartments are covered in with a sort of red tile made in the neighborhood, the whole presents the same lonely uninteresting appearance, as that already described at St. Francisco. Like that establishment, the several buildings for the use of the officers, soldiers, &c. and for the protection of stores and provisions, are erected along the walls on the inside of the inclosure, which admits of but one entrance for carriages or persons on horseback; this, as at St. Francisco, is on the side of the square fronting the church, which was rebuilding with stone like that at St. Carlos.*

1794. I was . . . on Wednesday able to join a party to the valley through
November. which the Monterrey river flows, and was there gratified with the
Wednes. sight of the most extraordinary mountain I have ever beheld. On
19. one side it presented the appearance of a sumptuous edifice fallen into decay; the columns which looked as if they had been raised with much labour and industry, were of great magnitude, seemed to be of an elegant form, and to be composed of the same cream-coloured stone,

* Menzies writes "They have no Lime here [Monterey region] but what they make from Shells, consequently their Houses are built with Stone & Mortar or with Sods & plaisterd with Mortar & afterwards White Washd; they are only one story high & generally divided into two apartments, in one of which a small place near the Wall is elevated about a foot higher than the rest of the floor on which a Mat is spread, & sometimes Cushions for the Women to sit down on, & if they take their seats before a stranger arrives, they never stir to pay the least homage to him."

of which I have before made mention. Between these magnificent columns were deep excavations, resembling different passages into the interior parts of the supposed building, whose roof being the summit of the mountain appeared to be wholly supported by these columns rising perpendicularly with the most minute mathematical exactness. The whole had a most beautiful appearance of human ingenuity and labour; but since it is not possible, from the rude and very humble race of beings that are found to be the native inhabitants of this country, to suppose they could have been capable of raising such a structure, its being the production of nature, cannot be questioned, and it may not be preposterous to infer, that it has been from similar phaenomena that man has received that architectural knowledge, by which he has been enabled to raise those massy fabricks, which have stood for ages in all civilized countries.

WILLIAM SHALER

On the Use of Lime and Stones in Repairing the Lelia Byrd

March 1805 *

On the 24th of February, I arrived without any remarkable occurrence on the coast of California, where we got plentiful supplies of provisions as usual, and were not unsuccessful in our collections of furs. The 14th of March, I paid a visit to the island of Santa Catalina, where I had been informed, by the Indians, that there was a good harbour. We remained there a few days only, to ascertain that point. We found the harbour every thing that could be desired, and I determined that, after collecting all the skins on the coast, I would return to it and careen the ship, which she was by this time greatly in want of. After completing our business on the coast, we returned to Santa Catalina, and anchored in the harbour on the 1st of May. As I was the first navigator who had ever visited and surveyed this place, I took the liberty of naming it after my much-respected friend, M. De Roussillon. We warped the ship into a small cove, and landed the cargo and every thing moveable, under tents that we had previously prepared for their reception. The Indian inhabitants of this island, to the amount of about 150 men, women, and children, came and encamped with us, and readily afforded us every aid in their power.

* From *Journal of a Voyage Between China and the Northwestern Coast of America Made in 1804*, by William Shaler; published in the *American Register*, vol. 3, Philadelphia, 1808.

"Several American trading craft made their appearance on the California coast this year [1803], creating not a little excitement in some instances by attempts at smuggling, in the success of which the people were often hardly less interested than the Yankee captains. The *Lelia Byrd* was fitted out at Hamburg by Captain Richard J. Cleveland of Salem, Massachusetts . . . in partnership with William Shaler, and sailed in November 1801. Shaler was master and Cleveland second in command. The vessel was loaded with a great variety of merchandise, which it was hoped to sell profitably on the west coast of America. . . . After doubling Cape Horn . . . the navigators reached San Blas in July [1802]. Here and at the Tres Marias they waited over six months, and . . . succeeded not only in selling goods to the amount of \$10,000 and obtaining what supplies they needed, but also bought 1,600 otter-skins just arrived from California at prices which assured the success of the trip. An amusing feature of this and other similar narratives is the cool frankness with which the Americans and English present the evasion of all Spanish commercial and revenue regulations as an action altogether praiseworthy, and the efforts of the officials to enforce those regulations as correspondingly reprehensible.

"Sailing from San Blas, January 25, 1803, after careening and 'boot-topping' the vessel at the Tres Marias, our adventurers sailed in February for San Diego. . . . On the evening of

After caulking the ship's upper works, and paying, or rather plastering them with a mixture of lime and tallow, as we had no pitch, tar, or any resinous substance on board, we careened her. We found her bottom in a most alarming state: the worms had nearly destroyed the sheathing, and were found to be lodged in the bottom planks. I was now pretty well assured of what I had long before feared; that is, that she would not carry us back to Canton. We, however, repaired the first side in a tolerable manner, and paid it with a thick coat of lime and tallow; righted and hove out the other side, which we found far worse than the first. The keel and stern-post were nearly reduced to a honey-comb. It was necessary to heave her far out, in order to apply effectually such remedies as were in our power, but unfortunately we hove her rather too far, and she upset and filled. This was a sad misfortune. It did not discourage us, however, and we went to work with spirit and resolution to remedy it, and had the satisfaction of righting her the next day, without apparently having suffered any material damage. The day following we pumped and bailed out the water, and the day after hove the ship out a third time, but had the misfortune to find her leak so bad, that we were obliged to right her immediately. I next determined to lay the ship ashore at high water, and endeavor to repair her when the tide should leave her. This experiment was tried without effect, as she buried herself so much in the sand, as to put it out of our power to do any thing effectual; but the greatest misfortune was, that, as the tide came in again, we found the ship leak so bad, that both pumps were necessary to keep her free. This demanded an immediate remedy; and as the leak was known to be aft, I ordered the mizen-mast to be cut away in order to come at it. The leak was soon dis-

March 17th, the *Lelia Byrd* passed the fort at Point Guisjarros without being hailed, and anchored in San Diego Harbor. . . . It was known that the soldiers had small quantities [of otter skins] which they would gladly dispose of if they could do so without detection. Two boats were accordingly sent under cover of night to different parts of the bay shore. One returned with a few otter-skins; but the other was seized by the watchful commandant [Don Manuel Rodriguez], the mate and two men being bound and left on the beach under a guard of three men. Next morning Cleveland went ashore with four men, each armed with a brace of pistols, rescued the captives, and brought them off. Sails were set at once and the somewhat hazardous attempt was made of running out past the guns of the fort. The hoisting of a flag and the firing of a blank-cartridge from the battery had no effect, and when a nine-pound ball came across her bows the *Lelia* still kept on her course. . . . As she passed the fort two broadsides from her six three-pounders were discharged at the battery; while many of the shots from on shore took effect in the rigging, and several struck the hull, one of them making an ugly hole between wind and water. . . . The *Byrd* hastened to San Quintin for repairs, arriving on the 24th.

" The *Lelia Byrd* [was] on the coast again in 1804 under the command of her old captain, William Shaler, and brought a cargo which had been completed in China by buying out another American vessel. . . . The *Lelia* from Canton arrived off the Columbia River May 1st, proceeding down the coast and anchoring in Trinidad Bay, California, on the 11th. . . . Of the voyage down the coast from Trinidad we have the following only: 'On the 23d we arrived on the coast of California, where I got abundant supplies of provisions, and began a trade with the missionaries and inhabitants for furs. We continued on the coast of California until the 8th of July, when we sailed for the gulf of that name.'

"After a trip to Guaymas and down the coast to Guatemala Shaler turned northward, and on February 'arrived without any remarkable occurrence on the coast of California.' . . . He visited Santa Catalina Island, found a desirable harbor, and again anchored there in May. . . . The ship was found to be in an unseaworthy condition, but by six weeks of hard work, attended with many mishaps, and by a free and somewhat novel use of oakum, lime, and tallow, she was made ready, and sailed early in June. Shaler anchored in San Pedro Bay where he obtained supplies for twelve months then he ran down the coast, collecting furs on the way; and July 30th sailed from Cape San Lucas for the Sandwich Islands, where he arrived in August." *H. H. Bancroft, History of California, vol. 2, 1801-1824, pp. 10-23, 1886.*

covered by this means, but so situated that we could apply no other remedy than the lime and tallow that had been previously prepared for her bottom; this, mixed with oakum, was driven down on the leak, and we had the satisfaction to see it reduced by these means to one pump by the time she was afloat. We now burnt a large quantity of lime, which we made into stiff mortar, and put on the first, laying a platform of boards over it, and covering the whole with several tons of stones, to keep it firmly down. This new method of stopping leaks we found to answer very well, as, in the course of a few days, when the mass had consolidated, the ship made very little water. By the 9th of June, the ship was again rigged with a jury mizen-mast, our cargo on board, and we were again ready for sea. On the 12th, we bid adieu to our Indian friends, and left Port Roussillon with the intention of running down the coast, and (if we found the ship not to leak so much as to be unsafe, to run for the Sandwich Islands, where I determined to leave her, and to take passage in some north-west fur trader for Canton.



FIGURE 15. EIN TANZ DER INDIANER IN DER MISSION VON ST. JOSÉ IN NEU-CALIFORNIEN. [Dance of the Indians at Mission San Jose, California.] Photo by courtesy of Bancroft Library, University of California.

G. H. VON LANGSDORFF
On the Uses Made of Clay at Mission San Jose

1806 *

[English translation is on page 169.]

Die ganze Lage des Ortes ist ausserordentlich glücklich gewählt, und nach der allgemeinen Meinung wird diese Mission in einigen Jahren eine der reichsten und besten von Neu-Californien seyn.

Der einzige Nachtheil ist, dass es hier an hochstämmigen Waldungen gänzlich mangelt. . . .

Bey diesem Mangel hat aber diese Mission auch sehr beträchtliche Vorzüge vor vielen andern, indem sie in ihrer Nachbarschaft Kalkgebirge und vortressliche Thonerde hat, wodurch sie in den Stand gesetzt ist, Ziegelbrennereien anzulegen und alle Hauptgebäude von Backsteinen zu erbauen; . . .

Padre Pedro, der mich allenthalben umher geführt hatte, schlug mir nach einigen Stunden vor, die Vorbereitungen der Indianer zum Tanz zu betrachten, und führte mich nach einem Bache, an dem sich die Tänzer versammelt hatten, und sich mit Kohlen, rother Thonerde und Kreide beschmierten; während der eine beschäftigt war, seine Brust, den Bauch und die Schenkel auf diese Art zu verschönern, so bemahlte ein anderer dessen Rücken mit verschiedenen regelmässigen Figuren. Einige bedeckten sich auch den ganzen, übrigens nackten, Körper mit Pflaumfedern, wodurch dann ein solcher Mensch eher das Ansehen eines Aussenähnlichen Thieres, als das eines Menschen hatte. Der Kopf, der Hals und die Ohren waren mit Zierrathen verschiedener Art geschmückt, und der ganze Körper, eine Schaambedeckung ausgenommen, nackt. Die Weiber putzten sich unterdessen in ihren Hütten; sie sind alle, wie es Anständigkeit und Sittlichkeit mit sich bringt, gekleidet, bemahlen sich blos das Gesicht und den Hals, den sie auch mit Zierrathen aus Muscheln, Federn, Korallen u. s. w. nach ihrer Art zu verschönern suchen.

* From *Bemerkungen auf einer Reise um die Welt in den Jahren 1803 bis 1807 von G. H. von Langsdorff, Kaiserlich-Russischen Hofrath, Ritter des St. Annen-Ordens Zweiter Classe, Mitgleid Mehrerer Akademien und Gelehrten Gesellschaften. Mit siebenzen Kupfern. Zweiter Band. Frankfurt am Mayn, im Verlag bey Friedrich Wilmans, 1812.*

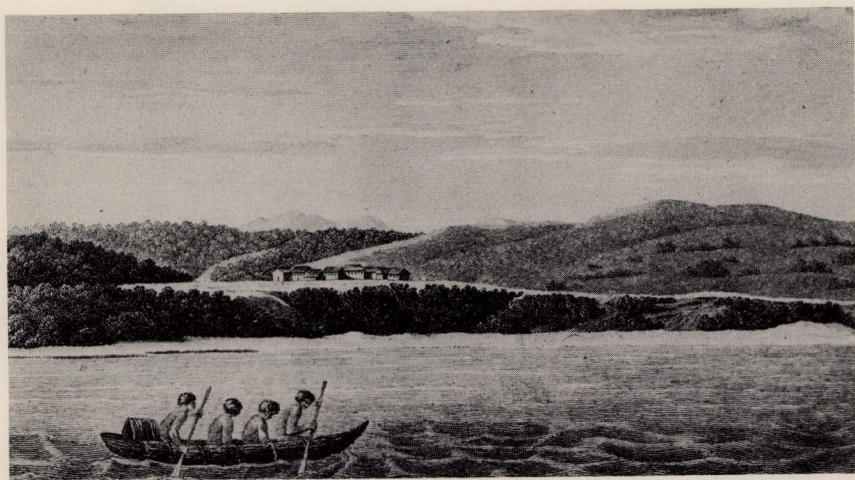


FIGURE 16. ANSICHT DES SPANISCHEN ETABLISSEMENTS IN ST. FRANCISCO. M. G. Eichler sc. [View of the Spanish settlement, San Francisco.] Photo by courtesy of Bancroft Library, University of California.

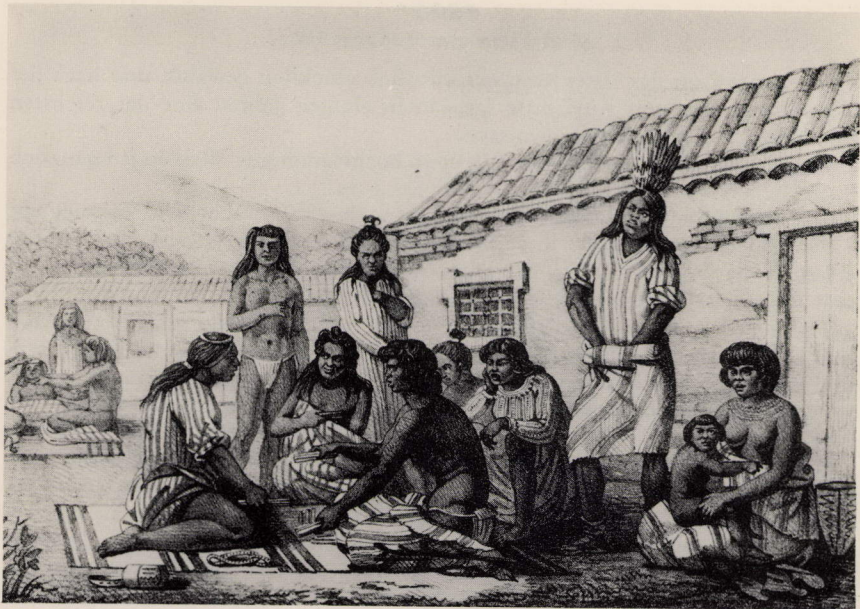


FIGURE 17. JEU DES HABITANS DE CALIFORNIE. par Norblin d'après Choris. Lith. de Langlumé, r de l'abbaye N. 4. IV. [Game of the inhabitants of California.] Photo by courtesy of Bancroft Library, University of California.

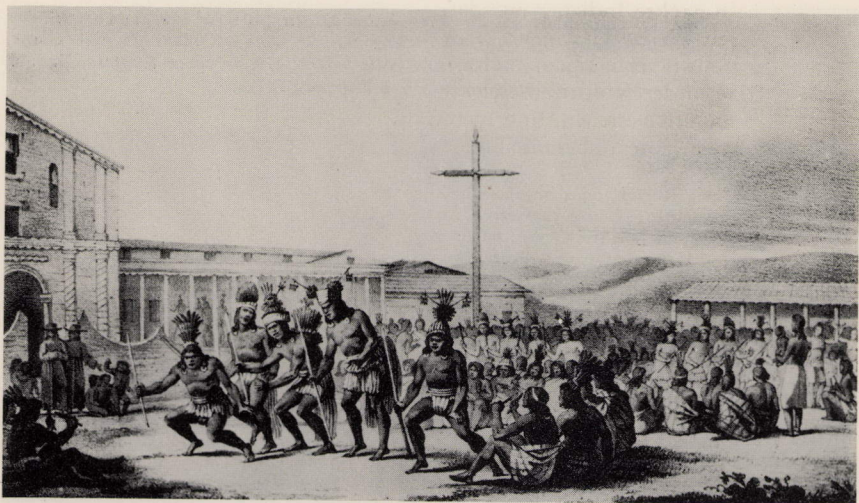


FIGURE 18. DANSE DES HABITANS DE CALIFORNIE A LA MISSION DE ST FRANCISCO. par Franquelin d'après Choris. Lith. de Langlumé r de l'abbaye N. 4. III. [Dance of the inhabitants of California at the mission of San Francisco.] Photo by courtesy of Bancroft Library, University of California.

VISITORS FROM THE RURICK
On the Use of Adobe and Stone at San Francisco

October 1816 *

[English translation is on page 170.]

Den 3ten October. . . . Heute machte ich nach Tische in Begleitung aller unserer Herren, einen Spaziergang ins Präsidio [San Francisco], wo der Commandant Don Louis d'Arguello uns am Thor empfing, mit acht Kanonenschüssen begrüßte und uns hierauf in seine Wohnung führte. Ich fand das Präsidio wie es Vancouver beschrieben; die Besatzung besteht aus einer Compagnie Kavallerie, wovon der Commandant Chef ist, und nur Einen Officier von der Artillerie unter seinem Commando hat.

Den 4ten. Um acht Uhr Morgens fuhren wir sämmtlich ans Land, und gingen in das Präsidio, um unserer Verabredung gemäss, in Gesellschaft des Commandanten, in die Mission zu reiten. . . . Wir legten bei ausserordentlich schönem Wetter den Weg in einer Stunde zurück, obgleich er über die Hälfte aus Sand und Bergen bestand. Selten schmückten kleine Gesträuche die unfruchtbaren Hügel, und nur erst in der Nähe der Mission kamen wir in reizende Gegenden, und erkannten die üppige Natur Californiens. Nachdem wir durch eine von Indianern ** bewohnte Strasse geritten, hielten wir vor einem grossen, neben der Kirche liegenden Gebäude, das von den Missionairs bewohnt wird, und hier kamen uns fünf Geistliche entgegen, von denen drei zur hiesigen Mission gehörig, und zwei aus St. Clara zur Feier des Festes hergekommen waren; diese führten uns in ein grosses, einfach möblirtes, schmutziges Zimmer, wo mir mit Achtung empfangen wurden. Mit dem Schläge zehn traten wir in die geräumige, von Stein erbaute und im Innern hübsch verzierte Kirche, wo wir schon einige hundert halb nackte Indianer auf den Knien liegend fanden. . . . Aus der Kirche gingen wir zu Tische, wo es an Speisen und Wein, welchen letztern die Missionairs selbst verfertigen, nicht fehlte. Nach dem Essen zeigte man uns die Wohnungen der Wilden, welche aus langen und niedrigen, aus Lehmstein gebauten Häusern bestehen, und mehrere Strasse bilden. Die Unreinlichkeit in diesen Kasernen war unbeschreiblich, und diese mag der Grund der grossen

* The Russian brig *Rurick*, on a voyage whose stated purpose was the scientific exploration of parts of the South Sea, and the search for a northeast passage through Bering Strait into the Arctic Sea and Atlantic Ocean, put in at San Francisco from October 2 to November 1, 1816. Aboard her were Otto von Kotzebue, captain, and Adelbert von Chamisso, from whose reports of the expedition excerpts are reprinted herein. The three illustrations are by Louis Choris, artist of the expedition, and are reproduced from his book *Voyage Pittoresque Autour du Monde, Avec des Portraits de Sauvages d'Amerique, d'Asie, d'Afrique, et des Iles du Grand Ocean; des Paysages, des Vues Maritimes, et Plusieurs Objets d'Histoire Naturelle; Accompagné de Descriptions par M. le Baron Cuvier, et M. A. de Chamisso, et d'Observations sur les Crânes Humaines par M. le Docteur Gall. Par M. Louis Choris, Peintre. Paris, de l'Imprimerie de Firmin Didot, Imprimeur du Roi, de l'Institut et de la Marine, Rue Jacob, N° 24. 1822.*

** Die Spanier nennen hier die Wilden: *los Indios*, wesshalb ich diese Benennung beibehalten habe.

OTTO VON KOTZEBUE †

† From *Entdeckungs-Reise in die Süd-See und nach der Berings-Strasse zur Erforschung einer nordöstlichen Durchfahrt. Unternommen in den Jahren 1815, 1816, 1817 und 1818, auf Kosten Sr. Erlaucht des Herrn Reichs-Kanzlers Grafen Rumanzoff auf dem Schiffe Rurick unter dem Besehle des Lieutenants der Russisch-Kaiserlichen Marine Otto von Kotzebue. Erster Band, mit zwei Kupfern und zwei Landkarten. Zweiter Band, mit fünf Kupfern und drei Landkarten. Dritter Band, mit dreizehn Kupfern und einer Landkarte. Enthält die Bemerkungen und Ansichten von dem Naturforscher der Expedition, Adelbert v. Chamisso, nebst Beiträgen von andern Gelehrten. Weimar, Verlegt von den Gebrüdern Hoffmann, 1821.*

Sterblichkeit seyn; denn von 1000 Indianern, welche sich in St. Francisco befinden, sterben jährlich 300. Die indianischen Mädchen, deren sich in der Mission 400 befinden, wohnen abgesondert von den Männern, ebenfalls in solchen Kasernen; beide Theile müssen schwer arbeiten.

Wir berufen uns im Uebrigen auf die Berichte von Laperouse und Vancouver, die wir treu erfunden haben. Seit ihrer Zeit hat sich nur wenig in Californien verändert.* Das Presidio ist neu aus Luftsteinen erbaut und mit Ziegeln gedeckt. Der Bau der Kapelle noch nicht angefangen, in den Missionen ist gleichfalls gebaut worden, und die Kasernen der Indianer zu S. Francisco sind von gleicher Bauart. Ein Artillerist hat Mühlen, die von Pferden getrieben werden, in den Missionen angelegt; sie sind jetzt meist ausser Stand und können nicht wieder eingerichtet werden. Zu S. Francisco ist noch ein Stein, den ohne Mechanik ein Pferd über einen andern Stein drehet, die einzige Mühle im Gange. Für eiliges Bedürfniss zerreiben die Indianer Weiber das Korn zwischen zwei Steinen. Eine Windmühle der Russisch-Amerikanischen Ansiedlung erregt Bewunderung und findet keine Nachahmung. Als von etlichen Jahren Handwerker mit grossen Unkosten hierher gezogen wurden, die verschiedenen Künste, deren man bedarf, zu lehren, benutzten die Indianer den Unterricht besser, als die *Gente racional* (das vernünftige Volk), Ausdruck, womit sich die Spanier bezeichnen; sie selbst sprachen ihnen das Zeugniß.

* Ein Fort, an gutgewählter Stelle angelegt, sperrt nun den Hafen von S. Francisco.

ADELBERT VON CHAMISSO †

† From *Bemerkungen und Ansichten auf einer Entdeckungs-Reise unternommen in den Jahren 1815-1818 auf Kosten Sr. Erlauch des Herrn Reichs-Kanzlers Grafen Romanzoff auf dem Schiffe Rurick unter dem Besehle des Lieutenants der Russisch-Kaiserlichen Marine Otto von Kotzebue von dem Naturforscher der Expedition Adelbert v. Chamisso. Der Philosophie Doctor, der Kaiserlich Leopoldinischen Akademie der Naturforscher, wie auch der Gesellschaften der Naturforscher zu Berlin, zu Moskau, zu Leipzig, u.s.w. Mitglied. Weimar, verlegt von den Gebrüdern Hoffmann. 1821.* (This is Book III of Kotzebue's *Entdeckungs-Reise*.)



FIGURE 19. VUE DU PRESIDIO SN FRANCISCO. Lith. de Langlumé, r de l'Abbaye N 4. Lith. par V. Adam d'après Choris. II. [View of the presidio of San Francisco.] Photo by courtesy of Bancroft Library, University of California.

CAPTAIN FREDERICK WILLIAM BEECHEY
On Construction at the Missions

1826 *

The governor's abode was in the corner of the presidio [San Francisco], and formed one end of a row, of which the other was occupied by a chapel; the opposite side was broken down, and little better than a heap of rubbish and bones, on which jackals, dogs, and vultures were constantly preying, the other two sides of the quadrangle contained storehouses, artificers' shops, and the gaol, all built in the humblest style with badly burnt bricks, and roofed with tiles. The chapel and the governor's house were distinguished by being whitewashed. . . .

The missions have hitherto been of the highest importance to California, and the government cannot be too careful to promote their welfare, as the prosperity of the country in a great measure is dependent upon them, and must continue to be so until settlers from the mother country can be induced to resort thither. . . .

Each mission has fifteen square miles of ground allotted to it. The buildings are variously laid out, and adapted in size to the number of Indians which they contain; some are enclosed by a high wall, as at San Carlos, while others consist merely of a few rows of huts, built with sun-burnt mud-bricks; many are white-washed and tiled, and have a neat and comfortable appearance. It is not, however, every hut that has a white face to exhibit, as that in a great measure

* From *Narrative of a Voyage to the Pacific and Beering's Strait, to Cooperate with the Polar Expeditions: Performed in His Majesty's Ship Blossom, Under the Command of Captain F. W. Beechey, R.N., F.R.S., &c. in the Years 1825, 26, 27, and 28. Published by Authority of the Lords Commissioners of the Admiralty. A New Edition. In Two Volumes. London: Henry Colburn and Richard Bently, New Burlington Street. 1831.* The illustrations that accompany these excerpts from Captain Beechey's report are from water-color sketches by William Smyth, who accompanied Beechey on his voyage to the Pacific. They have been published as lithographs in *California: A History of Upper and Lower California from Their First Description to the Present Time, Comprising an Account of the Climate, Soil, Natural Productions, Agriculture, Commerce &c. A Full View of the Missionary Establishments and Condition of the Free and Domesticated Indians With an Appendix Relating to Steam Navigation in the Pacific. Illustrated With a New Map, Plans of the Harbours, and Numerous Engravings. By Alexander Forbes, Esq. London: Smith, Elder and Co. Cornhill. 1839.*

"Beechey sailed from England in May 1825, despatched to Bering Strait, there to await the arrival of Franklin and Parry of the arctic expeditions. Sailing by Cape Horn, Valparaiso, and the Hawaiian Islands, he arrived in Kotzebue Sound in July 1826, remaining in the far north until October, when he was obliged by the closing-in of winter and by want of supplies to sail for the south. He anchored at San Francisco November 6th, and was hospitably received by Comandante Martinez and Padre Tomás Esténeza. Supplies were, however, less plentiful than had been expected, and a party was sent overland to Monterey. This party was absent from the 9th to the 17th, during which time and subsequently Beechey and his men were occupied in making a survey of San Francisco Bay and scientific observations about its shores. No obstacles were thrown in his way, the authorities asking only for a copy of the resulting chart, which was given. The Englishmen amused themselves chiefly by excursions on horseback over the peninsula, and especially from the presidio to the mission, the inhabitants gaining an extraordinary revenue from the hire and sale of horses. The navigators also visited Mission San José late in November. . . . The Englishmen sailed on December 28th for Monterey. Here they remained five days, cutting spars, and obtaining supplies from missions and from vessels in port and on the 5th of January the *Blossom* sailed for the Sandwich Islands. After another trip to the Arctic, unsuccessful like the first, so far as meeting the ill-fated Franklin was concerned, Beechey returned to Monterey October 29, 1827, remaining until December 17th, when he went again to San Francisco for water, finally sailing on January 3d for San Blas, and thence home via Cape Horn and Brazil, reaching England in October 1828." *H. H. Bancroft, History of California, vol. 3, 1825-1840, pp. 120-122, 1886.*



FIGURE 20. THE MISSION OF SAN FRANCISCO, UPPER CALIFORNIA. Pub^d by Smith, Elder & C^o Cornhill. Capt. W. Smyth R.N. del. Day & Haghe Lith^{rs} to the Queen. Photo by courtesy of California Historical Society.

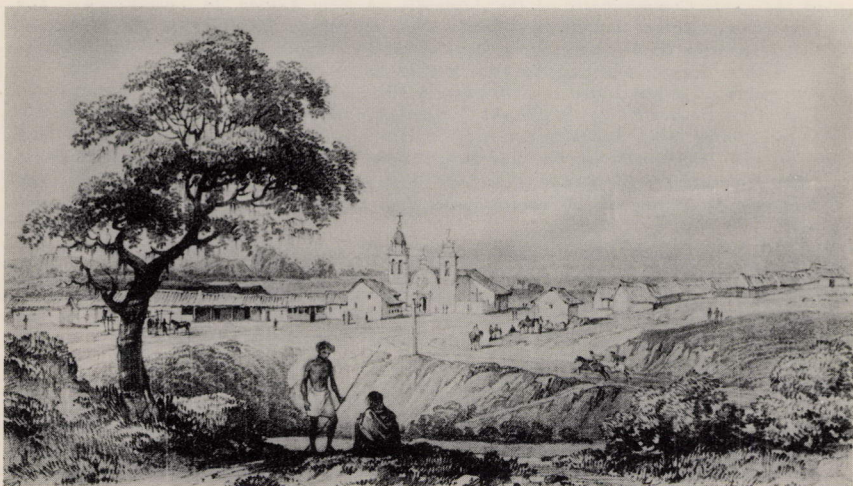


FIGURE 21. MISSION OF SAN CARLOS, AND BAY OF CARMEL, UPPER CALIFORNIA. Smith Elder & C^o Cornhill. Drawn by Captⁿ W^m Smyth R.N. Day & Haghe Lith^{rs} to the Queen. Photo by courtesy of California Historical Society.



FIGURE 22. THE PRESIDIO AND PUEBLO OF MONTERREY, UPPER CALIFORNIA. Smith Elder & Co Cornhill. Drawn by Capt. Smyth, R.N. Day & Haghe Lithrs to the Queen. Photo by courtesy of California Historical Society.

depends upon the industry and good conduct of the family who possess it, who are in such a case supplied with lime for the purpose. It is only the married persons and the officers of the establishment who are allowed these huts, the bachelors and spinsters having large places of their own, where they are separately incarcerated every night.

To each mission is attached a well-built church, better decorated in the interior than the external appearance would lead a stranger to suppose. . . . Each establishment is under the management of two priests if possible, who in Upper California belong to the mendicant order of *Sán Francisco*. They have under them a major-domo, and several subordinate officers, generally Spaniards, whose principal business is to overlook the labour of the Indians.

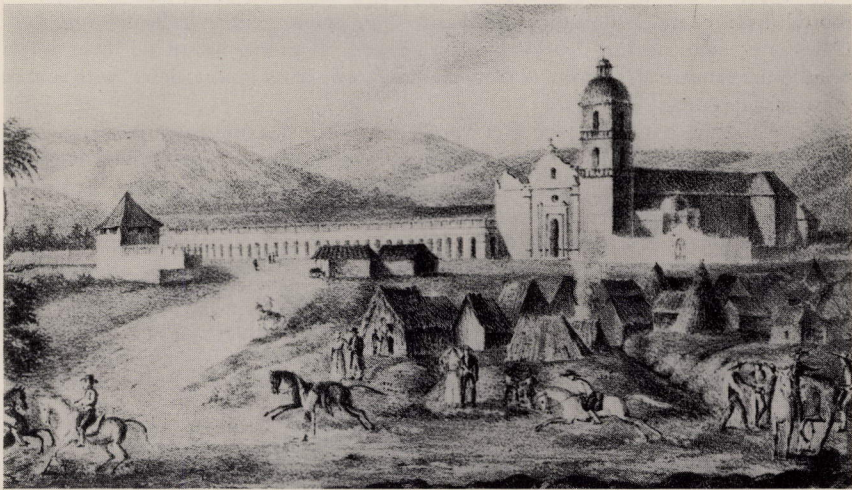


FIGURE 23. VUE DE LA MISSION DE SAN-LUIS-REY EN CALIFORNIE: A. Duhaut-cilly, del. Lith. Lorette et Cie St Sorvan. H. Lorette Lith. Photo by courtesy of Bancroft Library, University of California.

A. DUHAUT-CILLY

On the Difficulties of Building at Santa Barbara Mission

March-April 1827 *

[English translation is on pages 171 to 179.]

Le 28 [Mars, 1827], nous eûmes en même tems connaissance des îles qui forment le canal, dit de Santa-Barbara et de la pointe Concepcion. Cette points après laquelle la côte prend une direction Est, est fort remarquable par sa forme. Sous l'aspect d'un coin de mire, elle s'élève de la mer; et s'abaissant ensuite vers l'intérieur, après avoir tracé une longue queue, elle remonte doucement jusqu' au sommet des montagnes.

Aussitôt que nous eûmes passé ce cap, la mer qui auparavant était fort agitée, devint droite et unie; mais la brise était faible, et nous n'avancions que lentement, ayant à notre droite les îles de San-Miguel, Santa-Rosa, et Santa-Cruz.

La côte que nous prolongions à deux milles de distance, est dominée par une chaîne de montagnes parallèles au rivage, de six à sept cents mètres d'élévation. A leur base s'étend une plaine terminée par des falaises verticales, qui laissent entre elles et la mer une plage étroite, de sable ou de galet. Cette campagne, où paissent de grands troupeaux de chevaux et de bêtes-à-cornes, est agréablement coupée à des distances presque égales par des vallées étroites. Dans ces ravins, croissent des massifs de beaux chêne, dont les cimes pressées et touffues semblent remettre de niveau tout ce terrain: des ruisseaux coulent dans ces vallons et servent à abreuer le bétail qui se nourrit aux environs. . . .

Pendant que nous longeâmes ce rivage, nous trouvâmes la mer presque partout couverte de bitume, tantôt sous la forme de plaques arrondies, d'une certaine épaisseur, tantôt sous celle de larges nappes d'huile et de goudron, étendues sur l'eau et montrant des reflets jaunes ou azurés. L'odeur qu'exhalait cette matière, était assez forte pour incommoder, et rendre la respiration âpre et difficile. J'ai ignoré quelque tems si ce brai naturel, répandu en si grande quantité sur tout le canal, coulait de quelque point de la côte, ou si la source en jaillissait du fond de la mer; ce ne fut qu'à une autre relâche a Santa-Barbara, que je sus, qu'à moitié distance de ce Présidio, à la pointe Concepcion, entre le Rancho de Los-Ortegas et celui de Los-dos-Pueblos, se trouve un grand bassin de bitume qui bouillonne sans cesse, et dont le trop-plein débordé dans la mer dont cette source n'est pas éloignée. . . .

Nous allâmes ensuite à pied à la Mission, située à l'extrémité supérieure de la plaine, à une demi-lieue du Présidio. Le chemin qui y conduit monte d'une manière peu sensible, en traversant une belle pelouse, où paissent les chevaux en service et les vaches qui fournissent le lait journalier au Présidio. A mesure que nous avancions, les bâtimens de la Mission se présentaient sous un plus bel aspect. De la rade, nous aurions pu la prendre pour un château du Moyen-Age, avec ses hautes ouvertures et son beffroi; en approchant, l'édifice s'agrandit, et sans rien perdre de sa beauté, il prend peu à peu un air religieux; la tourelle devient un clocher; l'airain, au lieu d'annoncer l'arrivée d'un chevalier, sonne l'Office ou l'Angelus; la première illusion est détruite, et le castel est un couvent.

* From *Voyage autour du monde, principalement à la Californie et aux Iles Sandwich, pendant les années 1826, 1827, 1828, et 1829*; par A. Dubaut-Cilly, Capitaine au Long-Cours, Chevalier de la Légion d'Honneur, Membre de l'Académie d'Industrie Manufacturière, Agricole et Commerciale de Paris. Tome Premier, 1834. Tome Second, 1835. Paris, Chez Arthus Bertrand, Libraire, rue Hautefeuille, 23; Saint-Servan, Chez D. Lemarchand, Libraire.

Sur le devant de la maison, au milieu d'une vast place, est une fontaine jaillissante, dont l'exécution, toute imparfaite qu'elle fût, nous causa une surprise d'autant plus grande, que nous nous attendions moins à rencontrer dans ce pays, d'ailleurs si éloigné des recherches européennes, cette espèce de luxe réservé chez nous aux demeures les plus opulentes. Après s'être élevée à plus de huit pieds au-dessus du sol, l'eau claire et brillante de cette fontaine retombait en larges nappes sur une suite décroissante de plateaux en pierre formant l'ensemble d'une pyramide octogone: elle remplissait jusqu'au bord un bassin de la même forme, d'où, sortant par la gueule d'un ours aussi en pierre, elle tombait dans un beau lavoir en stuc, autour duquel des Indiennes et de jeunes Californiennes étaient occupées à laver. Ces dernières nous regardèrent en dessous, à travers les belles tresses de leurs cheveux châains, et je présume que l'examen qu'elles firent des deux étrangers fut aussi complet qu'il fut rapide.

Le beau sexe de tous le pays est seul en possession de cet avantage, d'apprécier un individu, et surtout de saisir ses ridicules, au moyen d'un regard furtif, et dans un clind'oeil. Je vis l'une de ces jeunes filles sourire d'une manière presque imperceptible: peut-être excitais-je moi-même sa malicieuse gaité; cependant la tournure assez grotesque de mon compagnon, ses dents calcinées par l'usage immodéré du tabac, et sa tête de singe, placée sur un corps grêle de quatre pieds huit pouces, tout cet ensemble dut un peu tranquilliser mon amour-propre.

Nous montâmes un perron de quelques degrés, qui nous conduisit sous un long péristyle ou cloître, soutenu par quinze piliers carrés formant quatorze arcades qui, de loin, donnent à la Mission cette apparence de noblesse qui nous frappa à la première vue.

. Fray Antonio Ripol, homme de bonne mine et d'un esprit distingué, me fit une partie des questions que m'avait déjà adressées son vieux compagnon; et lorsque j'eus satisfait sa curiosité ou plutôt sa sollicitude, il nous offrit de visiter les bâtimens de la Mission et l'église.

La facade de cette chapelle est ornée de six demi-colonnes soutenant un fronton triangulaire, chargé de plusieurs statues de saints. Le vase de l'église n'est composé que d'une nef à voûte plate, sans bas-côtés. La structure de cet édifice n'aurait donc rien qui dût exciter la surprise, s'il eût été bâti par des Européens; mais lorsque l'on considère qu'il est l'ouvrage de pauvres Indiens, guidés par un ecclésiastique; qu'il est élève dans un pays qui, s'il renferme tous les matériaux nécessaires, ne les fournit du moins à la main que les emploie, que dans l'état sauvage où les produit la nature; on ne peut se lasser d'admirer la patience de ce religieux, le talent qu'il a déployé, et les soins qu'il a dû se donner une semblable construction.

Chez nous, veut-on entreprendre l'édification d'un bâtiment de ce genre? Dix architectes pour un se présentent avec leurs plans et leurs devis. On n'a qu'à choisir celui qui convient le mieux; on contracte des marchés avec des fournisseurs; tous les matériaux prêts à placer sont apportés sur le terrain désigné, sans qu'on ait à s'occuper d'autre chose qu'à vérifier leur qualité et à leur donner la dernière main; enfin, les meilleurs ouvriers se disputent la préférence sur leurs concurrents.

Ici, au contraire, tout est brut, jusqu'aux hommes, et le premier soin du constructeur a été de former ses ouvriers. Il a fallu, avec de la terre primitive, faire des briques et de la tuile; couper au loin des arbres immenses, et les apporter, à force de bras, par des chemins tracés exprès à travers les ravins et les précipices; recueillir à grands frais, sur le bord de la mer, les coquillages

pour les transformer en chaux; enfin, jusqu'au moindre élément de cet édifice a coûté des travaux préliminaires, qui ont dû augmenter considérablement les difficultés. On est en même tems étonné de la hardiesse du project et de la constance dans l'exécution: il n'y a qu'un zèle sans bornes pour l'extension de la religion, qui ait pu rendre le Padre Ripol victorieux de tant d'obstacles. Il n'a pourtant pas employé beaucoup plus de tems pour terminer le bâtiment qu'il n'en eût fallu en Espagne. . . .

La nef, l'autel et la sacristie, sont décorés de peintures dont les meilleures sont venues du Mexique; les autres sont de la main des Indiens eux-mêmes. Les piliers, les frises, les encadrements et les plinthes sont marbrés avec assez de goût, et ornés d'arabesques passablement exécutés. Ce qui relève encore tout cet ensemble, et dispose à l'indulgence à l'égard des défauts d'architecture, c'est une propreté excessive, qu'on ne rencontre pas dans nos églises du troisième et même du second ordre.

Le projet qui l'occupait alors tout entier était un moulin à eau qu'il faisait établir au bas d'une colline, à la droite de la Mission. L'eau, amenée de plus de deux lieues, par un canal, suivant le flanc des montagnes, devait ce précipiter d'une hauteur d'environ vingt pieds, sur les augets de la roue. La chute de ce moteur n'était pas perpendiculaire; elle s'opérait sous un angle d'environ 35° ; aussi, la roue, au lieu d'être verticale, était horizontale: c'était un plein-cercle, sur le plan duquel étaient disposées, comme des rayons, des espèces de grandes cuillers un peu concaves, qui devaient recevoir successivement l'impulsion et transmettre le mouvement.

Au premier aspect, je fus surpris que le Padre, homme de judgment, eût préféré l'inclinaison de la chute, quand il lui était si facile, en escarpant la colline, d'en obtenir une beaucoup plus puissante; car, sans être hydrostaticien, je m'apercevais bien que son moteur perdrait d'autant plus de sa force, que son inclinaison serait plus éloignée de la verticale. Cependant, avant d'avoir manifesté mon opinion, la réflexion me ramena à l'avis de l'inventeur, et je crus reconnaître que ce qu'il perdait d'abord de puissance motrice, il le gagnait d'un autre côté, en évitant le frottement de deux engrenages, puisque la meule tournante serait établie sur l'arbre même de la roue.

Une autre objection peut encore être faite, à l'égard de la vitesse de rotation; car, dans ce système, elle est égale pour la roue et pour la meule, tandis que, dans notre combinaison ordinaire, la vitesse de la meule augmente, dans le rapport du rayon de la roue, au rayon de la lanterne de l'arbre. Au reste, les ouvriers de Fray Antonio étant peu versés dans la mécanique, il évitait beaucoup d'imperfection, en simplifiant la machine, et je ne doutai pas de la pleine réussite de son entreprise. Je lui fis toutefois remarquer que la qualité de la pierre qu'il employait pour ses meules d'une seule pièce, n'était pas convenable; parce qu'étant toute composée de parties presque homogènes et d'une égale dureté, elle se polirait trop promptement. Après le dîné, le Président fut dormir sa siesta, et nous retournâmes à bord.

ALFRED ROBINSON
On California Building and Building Materials
1829-45 *

The next day [February 16, 1829], when I was to look for the first time upon those shores which were to become for some years my home, was necessarily one of great excitement, and I hurried on deck much earlier than my usual hour. Before us lay stretched out the shore, and as it curved away toward the northern extremity of [Monterey] bay, the swell of the ocean, wave after wave, echoed loud and heavily upon its sands. The sun had just risen, and glittering through the lofty pines that crowned the summit of the eastern hills, threw its light upon the lawn beneath. On our left was the "Presidio," with its chapel dome, and towering flag-staff in conspicuous elevation. On the right, upon a rising ground, was seen the "Castillo," or fort, surmounted by some ten or a dozen cannons. The intervening space between these two points was enlivened by the hundred scattered dwellings that form the town; and here and there groups of cattle grazing.

After breakfast, G. and myself went on shore on a visit to the Commandant, D. Mariano Estrada, whose residence stood in the central part of the town, in the usual route from the beach to the Presidio. Its external appearance, notwithstanding it was built of *adobe* or brick, made by the mixture of soft mud and straw, modelled and dried in the sun, was not displeasing; for the outer walls had been plastered and whitewashed, giving it a cheerful and inviting aspect. Like all dwellings built in the warm countries of America, it was but one story in height, covered with tiles, and occupied, in its entire premises, an extensive square.

. Mission [San Luis Rey] was founded in the year 1798, by its present minister, father Antonio Peyri, who had been for many years a reformer and director among the Indians. At this time (1829) its population was about three thousand Indians, who were all employed in various occupations.

The building occupies a large square, of at least eighty or ninety yards each side; forming an extensive area, in the centre of which a fountain constantly supplies the establishment with pure water. The front is protected by a long corridor, supported by thirty-two arches, ornamented with latticed railings, which, together with the fine appearance of the church on the right, presents an attractive view to the traveller; the interior is divided into apartments for the missionary and mayordomos, store-rooms, workshops, hospitals, rooms for unmarried males and females, while near at hand is a range of buildings tenanted by the families of the superintendents. There is also a guard-house, where were stationed some ten or a dozen soldiers, and in the rear spacious granaries stored with an abundance of wheat, corn, beans, peas, &c.; also large enclosures for wagons, carts, and the implements of agriculture. In the interior of the square might be seen the various trades at work, presenting a scene not dissimilar to some of the working departments of our state prisons. Adjoining are two large gardens, which supply the table with fruit and vegetables, and two or

* From *Life in California: During a Residence of Several Years in That Territory, Comprising a Description of the Country and the Missionary Establishments, With Incidents, Observations, Etc., Etc. Illustrated With Numerous Engravings.* By An American. To Which is Annexed a Historical Account of the Origin, Customs, and Traditions, of the Indians of Alta-California. Translated from the Original Spanish Manuscript [of the Reverend Father Friar Geronimo Boscana]. New York: Published by Wiley & Putnam, No. 161 Broadway. 1846.

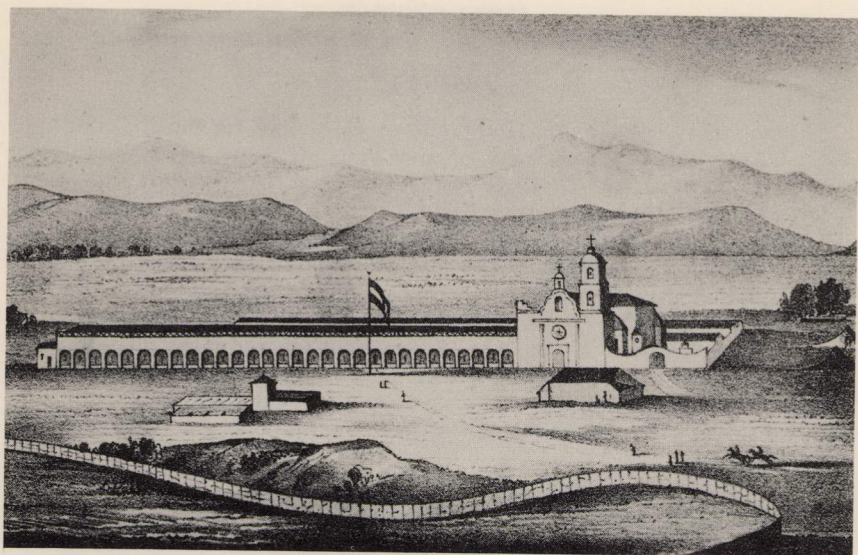


FIGURE 24. VIEW OF THE MISSION OF ST LUIS REY. A Robinson Del. Lith of G. & W. Endicott.
Photo by courtesy of California State Library.

three large "*ranchos*" or farms are situated from five to eight leagues distant, where the Indians are employed in cultivation and domesticating cattle.

The church is a large, stone edifice, whose exterior is not without some considerable ornament and tasteful finish; but the interior is richer, and the walls are adorned with a variety of pictures of saints and Scripture subjects, glaringly colored, and attractive to the eye. Around the altar are many images of the saints, and the tall and massive candelabras, lighted during mass, throw an imposing light upon the whole. . . .

. . . . [Mission San Juan Capistrano] was founded in the year 1776, and, though in early years the largest in the country, yet is now in a dilapidated state, and the Indians much neglected. There yet remain the ruins of an immense church, which was destroyed by an earthquake in 1812, when many Indians were buried in its fall. It still bears the appearance of having been one of the best finished structures of the country, and the workmanship displayed in the sculpture upon its walls and its vaulted roof would command admiration in our own country.

The arrangement of the mission of St. Juan is similar to that of St. Luis; in fact, all these establishments are formed upon the same plan, and much resemble each other, varying only in their extent and population. In many of the villages the residences consist of straw huts of an oval form, which, when decayed, the Indians set on fire and erect new ones—here, however, they are built of unburnt brick, tiled and whitewashed, forming five or six blocks, or streets, which present a neat and comfortable appearance. . . .

St. Fernando was founded in the year 1797, and at this time was governed by the reverend father Francisco Ybarra. . . . Distrustful of every one who wished to purchase his tallow or hides, he had accumulated an immense amount in his storehouses, where many of the latter had been destroyed by the length of time they had remained deposited. The tallow he had laid down in large, arched, stone vats, of sufficient capacity to contain several cargoes. . . .

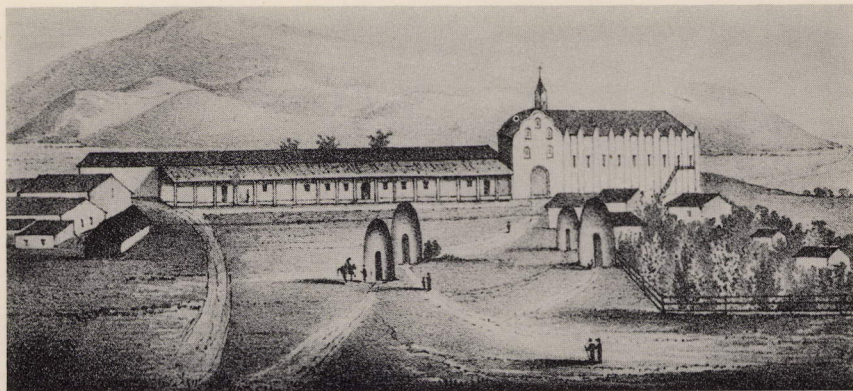


FIGURE 25. VIEW OF THE MISSION OF ST GABRIEL. A Robinson Del. Lith. of G. & W. Endicott.
Photo by courtesy of California State Library.

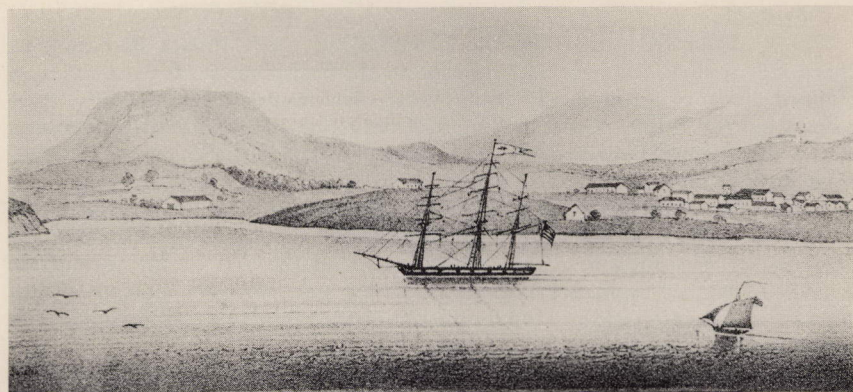


FIGURE 26. VIEW OF THE PRESIDIO OR TOWN OF SANTA BARBARA. A. Robinson Del. Lith. of G. & W. Endicott. *Photo by courtesy of California State Library.*

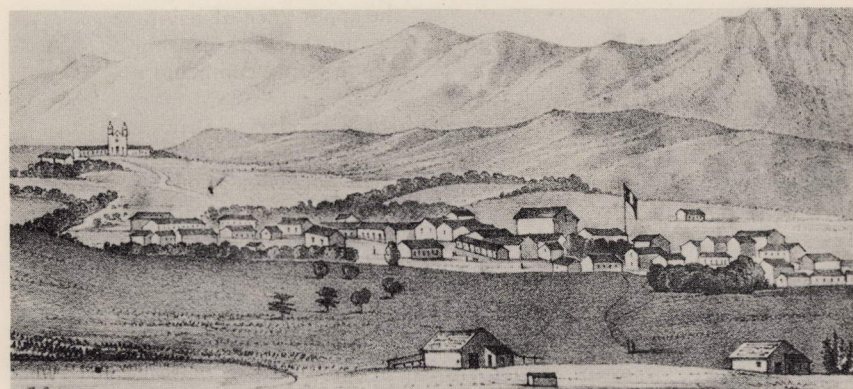


FIGURE 27. VIEW OF THE "PRESIDIO" OR TOWN OF SANTA BARBARA; TAKEN FROM A HILL NEAR THE FORT. A. Robinson Del. Lith. of G. & W. Endicott. *Photo by courtesy of California State Library.*



FIGURE 28. A VIEW OF THE MISSION OF SANTA BARBARA. A. Robinson Del. Lith. of G. & W. Endicott. Photo by courtesy of California State Library.

. Seen from the ship, the "Presidio" or town [Santa Barbara], its charming vicinity, and neat little Mission in the background, all situated on an inclined plane, rising gradually from the sea to a range of verdant hills, three miles from the beach, was a striking and beautiful effect. Distance, however, in this case, "lends enchantment to the view," which a nearer approach somewhat dispels; for we found the houses of the town, of which there were some two hundred, in not very good condition. They are built in the Spanish mode, with *adobe* walls, and roofs of tile, and are scattered about outside of the military department; shewing a total disregard of order on the part of the authorities. A ridge of rugged highlands extends along the rear, reaching from St. Bonaventura to Point Conception, and on the left of the town, in an elevated position, stands the *Castillo* or fortress.

The Presidio of Santa Barbara consists of a large square of buildings, surrounded by high walls, in plan similar to that of St. Diego, and contains a chapel, cemetery, prison, and storehouses.

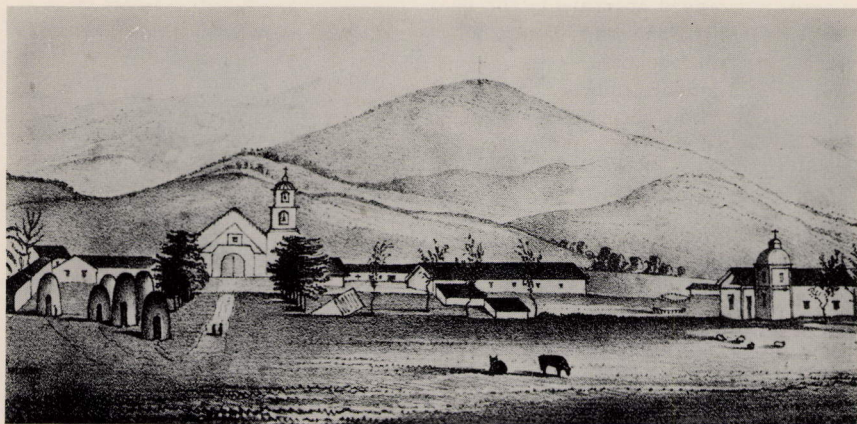


FIGURE 29. VIEW OF THE MISSION OF ST BUENAVENTURA. A. Robinson Del. Lith. of G. & W. Endicott. Photo by courtesy of California State Library.

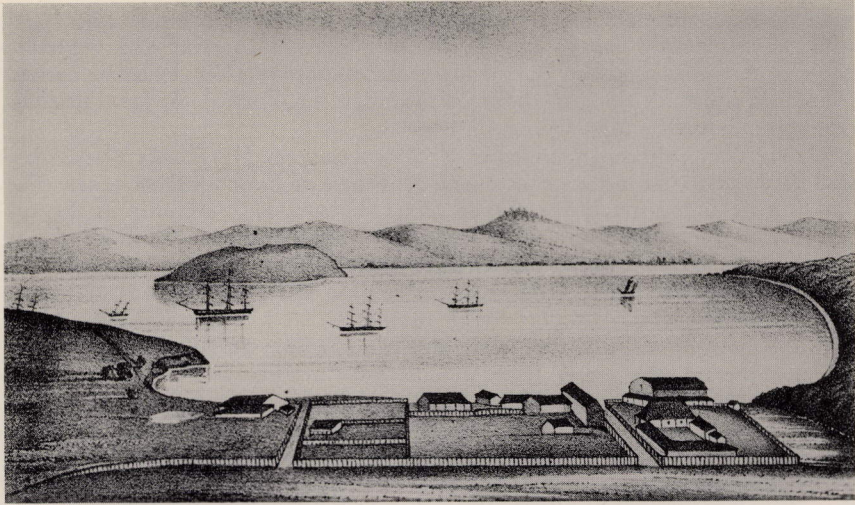


FIGURE 30. VIEW OF THE PLACE OF ANCHORAGE AT "YERBA BUENA" IN ST FRANCISCO. F. Teschmaker Del. Lith. of G. & W. Endicott. "When morning came, I found we were in a small bay, close to the shore; on one side of which were steep rocks, and on the other a smooth sandy beach. Outside of this was the island of Yerba Buena, and beyond this, on the other side of the bay of St. Francisco, the highlands of St. Antonio." Photo by courtesy of California State Library.

In the morning we walked to the mission, distant from the town about half a league. The road was pleasant, through scattered oaks; and groups of cattle were seen grazing upon the grassy plains. On the right were spacious wheat fields; at length, through a narrow way, amid immense rocks scattered over the ground, we reached the establishment. The stone church, with its two towers and extensive wing, its artificial clock, tiled roofs, arched corridor, and majestic fountain, was before us. On the right were various buildings for superintendents, a guard-house, tannery, and a dilapidated grist-mill; on the left, the spacious garden, with its fruit trees and flowers, and several rows of low buildings. Father Antonio Jimeno, the missionary, received us in a small but tastefully arranged apartment; the floor of which was of colored cement, and the walls painted and hung round with pictures of saints. Two or three sofas, a long table and bookcase, comprised its furniture. He welcomed us kindly, and after a short conversation, we walked into the "*patio*," or square, where carpenters, saddlers, and shoe-makers were at work, and young girls spinning and preparing wool for the loom. We next entered the vestry, which was carpeted and hung round with looking-glasses and fine paintings. Adjoining this was a small but convenient dressing-room, where were arranged the numerous dresses and ornaments used in the church services, some of them rich and of the most costly description. From this, a door led into the church, where we beheld a gorgeous display of banners, paintings, images, and crucifixes of gold and silver. The musicians attached to the choir were practising, and played some very fine airs; rather unsuitable, however, to the place. It was not unusual, both there and at the churches of other missions, to hear during the mass the lively dancing tunes. Another door of the church opened upon the cemetery, where were buried the deceased Christians of the Mission and Presidio, surrounded by a thick wall, and having in one corner the charnel house, crowded with a ghastly array of skulls and bones.

In the rear, from a slight elevation, might be seen large fields of wheat and corn; and the little valleys among the hills, filled with fruit and vegetable gardens. A foaming stream rushes down the mountain, from which is carried in an open aqueduct along the brow of the hill, a supply of water for a spacious reservoir of beautiful masonry. . . .

[Santa Ynes] Mission, founded in 1797, was governed by Father Blas Ordas, who received us with the accustomed cordiality of his hospitable order. The building we found much like that of Santa Barbara, differing only in the appearance of the church and the cleanliness of its apartments. In front was a large brick enclosure where the females bathed and washed; to the right the gardens, filled with choice fruit trees, and on the left a few clusters of Indian huts and tiled houses. . . .

In the morning we rode over to the Purissima, where we found two reverend friars, Fathers Victoria and Juan Moreno. This mission was originally established in 1787, at a place now known as "La Mision Vieja;" but has since been rebuilt in its present location, and though possessing abundant wealth, in cattle and planting grounds, yet it has been much neglected, and the Indians generally are ill clothed, and seem in the most abject condition. We remained here but a short time, and returned to Santa Ynes, slept there that night, and the next day reached the ship.

The morning after, we set out on an excursion to St. Buenaventura. . . . which was founded in 1782, and which is situated near the sea-shore, at the entrance of a valley leading into the interior among the mountains. . . . Besides the church building, there is a small chapel towards the beach, in which mass is at no time performed except on extra-ordinary occasions. . . .

. . . . The Mission of St. José was founded in 1797. . . . In the rear of the establishment, is a large reservoir of excellent water, which is carried through pipes, to the gardens, and other parts of the Mission. In front of the church is a very neat fountain, and also conveniences for washing and bathing. In point of beauty, the buildings here were very inferior to those of the southern missions. Durability and convenience alone, seem to have been consulted in their construction, and they mostly present a very ordinary appearance.

. . . . At length . . . we alighted at the farm-house [near San Jose] of a Californian.

As we rode up to the entrance, a score of dogs came rushing out, as if to annihilate us, but a gentle reproof from the master, who appeared at the door, called them off, and we entered. This cottage was built of sticks, covered over with mud, and the roof with 'brea.' . . . Dinner was prepared for us—horses were proffered to assist us on the journey, and, as usual among these hospitable people, no recompense was required. . . .

**On Construction at the Missions and Presidios
1840-42 ***

[English translation is on pages 180 to 189.]

En même temps que les moines établissaient des missions pour civiliser les Indiens, les gouverneurs fondaient des postes militaires nommés presidios, et des pueblos (villages) composés de soldats mariés et de colons blancs que l'on faisait venir de Sonora, de Sinaloa et de la Basse Californie. Comme ces trois genres d'établissements, missions, presidios et pueblos, sont tous formés sur le même plan, il suffira d'en décrire un pour donner une idée de tous les autres. Nous prendrons pour type la mission consacrée à saint Louis Roi de France, qui est la plus belle et celle dont l'architecture est la plus régulière. (Voir dans l'Atlas la perspective n° 23 et le plan géométrique n° 24 de la mission de Saint-Louis Roi de France.)

DESCRIPTION D'UNE MISSION

L'édifice est un quadrilatère de cent cinquante mètres de front; l'église occupe une des ailes; la façade est ornée d'une galerie. Le bâtiment, élevé d'un étage, est généralement exhaussé de quelques pieds au-dessus du sol. L'intérieur est formé par une cour ornée de fontaines et plantée d'arbres. Sur la galerie environnante s'ouvrent les portes des logements des moines, des majordomes, des voyageurs, celles des ateliers, des écoles, des magasins. Les infirmeries pour hommes et pour femmes sont situées dans les parties les plus paisibles de la Mission, où se trouvent aussi les écoles. Des jeunes filles indiennes habitent des salles nommées le monastère (*el monjerio*), et elles-mêmes sont appelées les nonnes (*las monjas*). Les moins sont obligés de les renfermer pour les mettre à l'abri de la brutalité des indigènes. . . .

Pour encourager les Indiens au travail, les Pères mettaient souvent la main à l'oeuvre et donnaient partout l'exemple. Il y a quelques années à peine que le

* From *Exploration de Territoire de l'Orégon, des Californies et de la Mer Vermeille, Exécutée Pendant les Années 1840, 1841, et 1842, Par M. Duflot de Mofras, Attaché à la Légation de France à Mexico; Ouvrage Publié par Ordre du Roi, Sous les Auspices de M. le Marechal Soult, Duc de Dalmatie, Président du Conseil, et de M. le Ministre des Affaires Étrangères. Tome Premier, Tome Second. Paris, Arthus Bertrand, Editeur, Libraire de la Société de Géographie, Rue Hautefeuille, n° 23. 1844.*

"M. Eugène Duflot de Mofras was a young attaché of the French embassy at Madrid, who had previously visited America, when at the end of 1839 he was called by Marshal Soult, minister of foreign affairs, and attached to the legation at Mexico, with a special mission to visit the north-western provinces of the republic, and the American, English, and Russian posts beyond, 'in order to ascertain, independently of a political point of view, what advantage might be offered to our commerce and to our navigation by mercantile expeditions, and the establishment of trading-posts in those regions still little known in France'. . . . In April 1841 he came up from Mazatlan with Captain Fitch on the *Ninfa*, touching first, perhaps, at San Pedro, and arriving at Monterey in May. Before June 11th he had visited Sonoma with a letter of introduction to Vallejo from Virmond, and probably went to Ross before returning to the capital. In July he was at Monterey, as appears from his letters. September 1st he arrived at Sutter's Fort; and during the same month was at San José and Santa Cruz. October 18th the traveller had embarked at San Francisco on the *Cowlitz* for Fort Vancouver and on December 30th he came back on the same vessel to San Francisco. . . . Mofras immediately took passage on the *Bolívar* for Monterey; and on January 3d sailed with Captain Pierce for Mazatlan on the *Maryland*, which touched at Santa Bárbara, and remained for nine days, January 18th to 27th, at San Diego. During the travels Mofras visited probably every Mission and other settlement in California. I suppose that the Santa Bárbara district was explored in April, as the *Ninfa* came up the coast; those of Monterey and San Francisco from May to October, the explorer making his headquarters at the capital and Yerba Buena; and that of San Diego in January 1842, while the *Maryland* was disposing of her cargo." *H. H. Bancroft, History of California, vol. 4, 1840-1845, pp. 248-250, 1886.*

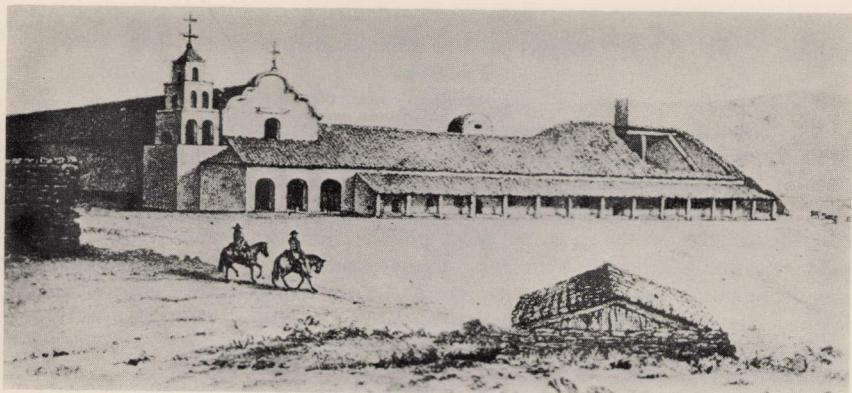


FIGURE 31. SKETCH OF MISSION OF SAN DIEGO DE ALCALA, MADE IN 1849 BY CAVE J. COUTS, LIEUTENANT, FIRST DRAGOONS. Reproduced from a copy in Serra Museum, San Diego, by permission of San Diego Historical Society.

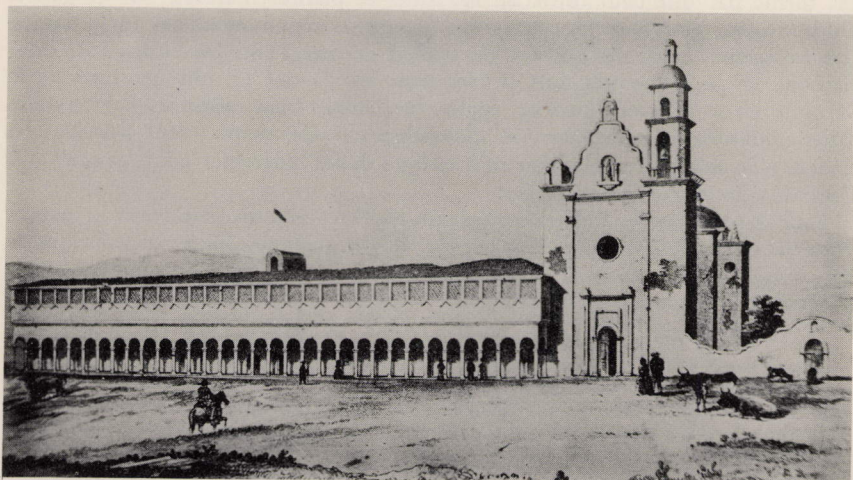


FIGURE 32. SKETCH OF SAN LUIS REY MISSION, MADE IN 1849 BY CAVE J. COUTS, LIEUTENANT, FIRST DRAGOONS. Reproduced from a copy in Serra Museum, San Diego, by permission of San Diego Historical Society.

Père Cavallero, président des Dominicains, est mort la charrue à la main, au milieu de ses néophytes de la mission de Notre-Dame de Gaudalupe. Le nécessité les rendait industriels; on est frappé d'étonnement en voyant qu'avec si peu de ressources, la plus souvent sans ouvriers européens, à l'aide de populations sauvages d'une intelligence presque nulle, et souvent hostiles, ils aient pu exécuter, indépendamment des travaux de grande culture, des ouvrages si considérables d'architecture de mécanique, tels que moulins, machines et métiers, des ponts, des routes, des canaux d'irrigation. Il a fallu, pour la construction de presque toutes ces missions, amener de huit et dix lieues sur le terrain choisi, des pièces de bois coupées souvent sur des montagnes escarpées, apprendre aux Indiens à faire la chaux, à tailler des pierres et à mouler des briques.

Autour de la mission, s'élèvent les bâtiments d'exploitation, les cabanes des néophytes et les maisons de quelques colons blancs. Outre l'établissement cen-

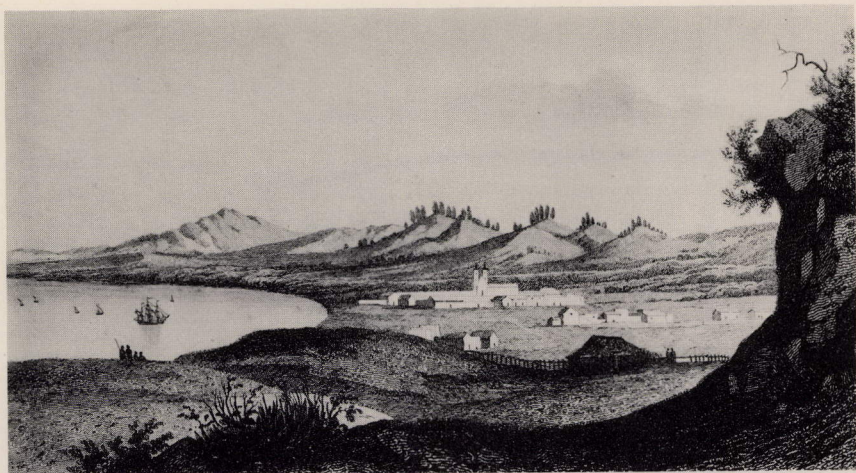


FIGURE 33. VUE DU PORT DE MONTEREY CAPITALE DE LA NOUVELLE CALIFORNIE. Publie par Arthus Bertrand. Ch. Ransonnette. Voyage de M. D. de Mofras. Vig. N° 1. Photo by courtesy of California State Library.

tral, il existe, sur une étendue de trente à quarante lieues carrées, des fermes accessoires au nombre de quinze à vingt, et quelques chapelles succursales. En face de la mission se trouve un corps de garde où longeait l'escorte des moines; cette escorte était composée de quatre soldats de cavalerie et d'un sergent; elle servait aussi à faire le service des dépêches, à transporter des ordres d'une mission à l'autre, et à repousser les incursions des tribus sauvages qui, dans les premiers temps de la conquête, venaient assaillir les établissements. . . .

DESCRIPTION D'UN PRESIDIO

Les Presidios étaient tous établis sur un plan analogue. On choisissait un emplacement favorable et on l'entourait d'un fossé de quatre mètres de large sur deux de profondeur. La terre du déblai servait d'épaulement extérieur. L'enceinte du Presidio était formée par un quadrilatère de deux cents mètres de front environ. Le rempart ou muraille, construit en briques, avait quatre à cinq mètres de haut sur un d'épaisseur; de petits bastions flanquaient les angles; le Presidio n'avait que deux portes. Son armement entier se composait généralement de huit pièces de canon en bronze, du calibre de huit, douze et seize. Incapables de résister à une attaque sérieuse faite par des navires de guerre, ces fortifications étaient suffisantes pour repousser les incursions des Indiens. Non loin des Presidios, et suivant la topographie du terrain, s'élevaient des batteries découvertes, pompeusement décorées du nom de *castillo* (château). Dans l'enceinte du Presidio se trouvaient l'église, les logements des officiers et des soldats, les maisons de quelques colons, des magasins, des ateliers, des écuries, des puits et des citernes. En dehors, se groupaient quelques habitations, et à une petite distance on rencontrait le ferme du roi (*el rancho del rey*), destinée à fournir des pâturages aux chevaux et aux bêtes de somme de la garnison.

Quatre batteries de côte et quatre Presidios défendaient la Haute Californie: ceux de San Diego, de Monte Rey, de San Francisco et de Santa Bárbara. . . .

Un jour, étant allé le voir [Fr. Tomás Esténeza, San Gabriel Mission], je trouvai dans un champ, devant une grande table, le capuchon renversé, les manches retroussées, pétrissant de l'argile et montrant à faire des briques aux



FIGURE 35. VUE DE LA MISSION DE SAINT LOUIS ROI DE FRANCE DANS LA NOUVELLE CALIFORNIE. Publié par Arthus-Bertrand. Imp. par Lemercier. Lith. par Muller. Voyage de Mr D. de Mofras. N° 23 de l'Atlas. Photo by courtesy of California State Library.



FIGURE 36. LE R. P. NARCISO DURAN Préfet apostolique des Franciscains Espagnols missionnaires dans la Nouvelle Californie. Publié par Arthus Bertrand. Ch. Ransonnette sc. Voyage de M. D. de Mofras. Vig. N° 2. Photo by courtesy of California State Library.



FIGURE 37. RANCHERO CALIFORNIEN JETANT LE LAZO. Publié par Arthus Bertrand. Imp. de Bougeard. Ch. Ransonnelle, sc. Voyage de M. D. de Mofras. Vig. N° 3. Photo by courtesy of California State Library.

néophytes qui l'entouraient. De plus loin qu'il m'aperçut il me salua de la main en me criant: "*Amigo! con esta familia, CONSILIO MANUQUE!*"

Un de nos nationaux, M. Charles Baric, celui qui, par son intelligence et sa connaissance du pays, pourrait rendre le plus de services, trafique dans toute la province, mais depuis quelque temps il se livre à l'exploitation d'une mine d'or vierge en grains qu'il a découverte au rancho de San Francisquito, à six lieues dans la montagne, au nord de la Mission de San Fernando, et à quinze lieues de los Angeles. Ce filon a une étendue de seize lieues, suivant la direction du ravin où il est situé. L'or se trouve presque à la surface du sol, et quelques morceaux pèsent de deux à trois gros. On l'achète, dans le pays, à raison de quatorze piastres l'once, payables en espèces, ou seize piastres en marchandises. Au rancho de Cahuenga, à deux lieues au nord-ouest du Pueblo, il existe des minerais d'argent non exploités faute de mercure et de personnes connaissant l'industrie minière. Les Indiens rapportent souvent de la sierra des grains de cuivre natif, des fragments d'opale et des morceaux de galène (sulfure de plomb).

À deux lieues au sud-est, on trouve quatre grandes sources d'asphalte situées à fleur de terre, dans une vaste prairie. Ces bouches s'ouvrent au milieu de petits mares d'eau froide, tandis que le bitume possède une température supérieure. Cette eau a un goût minéral, qui n'empêche pourtant pas les bestiaux de s'en abreuver. Au lever du soleil, les orifices des sources sont couverts par d'énormes cloches d'asphalte, ayant souvent plus d'un mètre de haut, et semblables à des bulles de savon. À mesure que l'air s'échauffe, les gaz contenus dans la cloche se dilatent, et cette dernière éclate en produisant une détonation assez violente. Les habitants recueillent l'asphalte solidifié, et s'en servent pour enduire les toits de leurs maisons, formés de roseaux ou de planchettes (bardeaux). Les navires transportent aussi ce bitume sur divers points du département. Cette matière présente cependant l'inconvénient de se fondre au soleil, de couler en bas des



FIGURE 38. ANTONIO MENDOZA, THE MEXICAN GOLD WASHER IN CALIFORNIA, FIRST DISCOVERER OF THE LARGE GOLD TRACK—TAKEN FROM LIFE, 1842. Sketch by G. M. Waseurtz af Sandels, from the original in the collection of The Society of California Pioneers. Photo by Mary Rae Hill.

toits et de s'infiltrer à travers la toiture. Les maisons qui en sont couvertes demandent un entretien attentif, mais peu coûteux, puisque les sources sont exploitées par chacun selon ses besoins. . . .

Dans le canal de Santa Bárbara le courant vient du nord et suit la direction de la côte; les sources d'asphalte qui se jettent dans la mer répandent à sa surface une couche huileuse et noirâtre qui s'aperçoit de loin et laisse échapper une odeur bitumineuse qui s'étend à plusieurs lieues au large. . . .

MISSION DE SANTA BARBARA

La Mission de *Santa Bárbara* (de Sainte-Barbe) est située à une lieue de la mer et à deux kilomètres du Pueblo, au pied d'une chaîne de montagnes arides qui la protègent contre les vents de l'est et du nord. Sa construction est très-régulière; sa galerie, formée par des arcades, et l'église, qui a deux belles tours, sont bâties en pierre de taille. Les jardins et vergers sont très-vastes et bien arrosés; il y a sur la place de la Mission une grande fontaine dont les eaux sont amenées de la montagne et font mouvoir un beau moulin. On trouve dans la sierra les dépôts calcaires des coquilles que l'on emploie à la bâtisse. Cette Mission, resserrée entre le rivage et les montagnes, ne possède qu'un petit nombre de terrains propres à la culture; aussi n'a-t-elle jamais atteint un grand développement. . . .

A une lieue et demie au nord de Santa Bárbara, on trouve sur la côte le rancho de la Brea, près duquel s'ouvrent dans la mer plusieurs bouches de goudron minéral. Sur le rivage et sur plusieurs autres points on rencontre des croûtes de bitume. A sept lieues de la mer, à vingt-six de Los Angeles et à l'est du Pueblo



FIGURE 39. GOLD WASHING AT ST. FRASISQITO IN 1842 OR 3. Sketch by G. M. Waseurtz of Sandels, from the original in the collection of The Society of California Pioneers. Photo by Mary Rae Hill.



FIGURE 40. GOLD FISHING ON THE COAST OF CALIFORNIA BAY. Sketch by G. M. Waseurtz of Sandels, from the original in the collection of The Society of California Pioneers. Photo by Mary Rae Hill.

de Santa Bárbara, il existe au rancho de las Pozas un volcan dont le cratère peu élevé laisse de temps en temps échapper de la fumée. Les alentours de ce volcan sont remplis de soufre. A une lieue environ de la Mission, on voit aussi des sources d'eau sulfureuse dont la température est voisine de celle de l'eau bouillante. . . .

L'établissement [Sutter's Fort] est situé à deux milles à l'est du fleuve, et à un mille au sud de la Fourche américaine. Du débarcadère aux bâtiments, on traverse une belle prairie ombragée de chênes énormes. On n'a pu construire de maisons sur le bord même du Rio Sacramento, à cause des inondations annuelles. Le fort de la Nouvelle Helvétie est adossé, au nord, à un petit ruisseau dont les bords escarpés concourent à la défense; l'enceinte est fermée par un mur de cinq pieds d'épaisseur, construit en briques cuites au soleil, et soutenu par de grandes pièces de bois: chaque face du quadrilatère présente un développement de cent mètres; les angles sont flanqués de bastions carrés, ayant deux étages; les quatre plans sont percés d'embrasures, et une galerie extérieure couronne toute la muraille.

T. J. FARNHAM
**On Stone and Tile Work at Carmel and
Santa Barbara Missions**

1841 *

The mission buildings [San Carlos Borromeo, or Carmel] are situated on the north side of the valley near the sea. They stand on elevated ground, which overlooks the bay and seven or eight miles of the vale. They were inhabited by a family of half-breeds, who kept the keys of the church. The edifices were built around a square of half an acre. On the west, south, and east sides of it, are the Indian houses with their ruined walls, scalloped tile roofs, clay floors and open unglazed windows. On the north side are the church, the cells and dining hall of the Padres. The latter is about forty feet by twenty, lighted by open spaces in the outer wall, grated with handsomely turned wooden bars, and guarded by plank shutters, swinging inside. At the west end of this room is a small opening through which the food was passed, from the kitchen. On the north side and east end are four doors opening into the cells of the friars. . . .

There was an outside stairway to the tower. . . . The walls of the church are of stone masonry; the roof of brick tiles. The whole structure is somewhat lofty, and looks down upon the surrounding scenery, like an old baronial castle, from which the chase, the tournament, and the reign of beauty have departed. An oaken arm-chair, brown and marred with age, stood on the piazza, proclaiming to our lady of Guadalupe and a group of saints rudely sketched upon the walls, that Carmelo was deserted by living men. . . .

. . . . Santa Barbara is situated on an inclined plane, which rises gradually from the sea side of a range of picturesque highlands three and a half miles from the sea. The town itself is three quarters of a mile from the landing. The houses are chiefly built in the Spanish mode, adobie walls, and roofs of tile. These tiles are made of clay, fashioned into half cylinders, and burned like brick. In using them, the first layer is placed hollow side up; the second inversely, so as to lock over the first. Their ends overlap each other as common shingles do. This roofing serves very well in dry weather. But when the driving southwesterly winds of the winter season come on, it affords a poor shelter. Very few of the houses have glass windows. Open spaces in the walls, protected with bars of wood, and plank shutters, serve instead. Mr. A. B. Thompson, a wealthy and hospitable American merchant, has erected a residence in the centre of the town, which bears very striking testimony to his being a civilized man.

There is an old Catholic mission, one mile and three quarters above the town, called El Mission de Santa Barbara. The church itself is a stone edifice, with two towers on the end towards the town, and a high gable between them. The friars complimented Father Time, by painting on the latter something in the shape of a clock dial. In the towers are hung a number of rich toned bells, brought from old Spain nearly a hundred years ago. The residence of the Padres, also built of stone, forms a wing with the church towards the sea. The prisons form another, towards the highlands. Hard by are clusters of Indian huts, constructed of adobies and tile, standing in rows, with streets between.

* In *Life, Adventures, and Travels in California*. By T. J. Farnham. To Which Are Added the *Conquest of California, Travels in Oregon, and History of the Gold Regions*. New York: Published by Nafis & Cornish. St. Louis, Mo.:—Van Dien & MacDonald. 1849. [Second Ed.]

The old Padres seem to have united with their missionary zeal a strong sense of comfort and taste. They laid off a beautiful garden, a few rods from the church, surrounded it with a high substantial fence of stone laid in Roman cement, and planted it with limes, almonds, apricots, peaches, apples, pears, quinces, &c., which are now annually yielding their several fruits in abundance. Before the church they erected a series of concentric urn fountains, ten feet in height, from the top of which the pure liquid bursts, and falls from one to another till it reaches a large pool at the base; from this it is led off a short distance to the statue of a grisly bear, from whose mouth it is ejected into a reservoir of solid masonry, six feet wide and seventy long. From the pool at the base of the urn fountains water is taken for drinking and household use. The long reservoir is the theatre of the battling, plashing, laughing and scolding of the washing-day. Around these fountains are solid, cemented stone pavements, and ducts to carry off the surplus water. Nothing of the kind can be in better taste, more substantial, or useful.

Above the church and its cloisters, they brought the water around the brow of a green hill, in an open stone aqueduct, a rapid, noisy rivulet, to a square reservoir of beautiful masonry. Below, and adjoining this, are the ruins of the Padres' grist-mill. Nothing is left of its interior structure, but the large oaken ridgepole. Near the aqueduct which carries the water into the reservoir of the mills, stands a small stone edifice ten feet in length by six in width. This is the bath. Over the door, outside, is the representation of a lion's head, from which pours a beautiful jet of water. This little structure is in a good state of preservation. A cross surmounts it, as, indeed, it does everything used by the Catholic missionaries of these wilderness regions. Below the ruins of the grist-mill is another tank one hundred and twenty-feet square, by twenty deep, constructed like the one above. In this was collected water for supplying the fountains, irrigating the grounds below, and for the propulsion of different kinds of machinery. Below the mission was the tan-yard, to which the water was carried in an aqueduct, built on the top of a stone wall, from four to six feet high. . . . Nothing but the church retains its ancient appearance. . . . It is one hundred and sixty feet long by sixty in width. Its walls are eight feet in thickness. The height of the nave is forty feet. . . . Immediately before the altar is a trap-door, opening into the vaults, where are buried the missionary Padres. Over the altar are many rich images of the saints. Among them is that of San Francisco, the patron of the missions of Upper California. . . . To the left of the altar is the sacristy, or priest's dressing-room. It is eighteen feet square. . . .

A door in the eastern wall of the church leads from the foot of the chancel to the cemetery. It is a small piece of ground enclosed by a high wall, and consecrated to the burial of those Indians who die in the faith of the Catholic Church. It is curiously arranged. Walls of solid masonry, six feet apart, are sunk six feet in depth, and to a level with the surface. Between these the dead are buried in such manner that their feet touch one wall and their heads the other. These grounds have been long since filled. In order, however, that no Christian Indian may be buried in a less holy place, the bones, after the flesh has decayed, are exhumed and deposited in a little building on one corner of the premises. I entered this. Three or four cart-loads of skulls, ribs, spines, leg-bones, arm-bones, &c., lay in one corner. Beside them stood two hand-hearses with a small cross attached to each. About the walls hung the mould of death!

G. M. WASEURTZ AF SANDELS
On Pitch, Lime, and Adobe
1842-43 *

St. Innes is one of the Missions which yet remains with some live stock. I think 5,000 head of cattle, some horses, mares and sheep. . . . Having stopt a few days on medical duties at this place, I returned and examined the Naptha Springs in the neighborhood of the town. A sort of broken ground surrounded with marshes end in an abrupt bluff a mile from the sea. There it opens as an excavation in the bottom of which naptha is issued in a dark boiling mass not unlike molasses. The strong smell from the spring do not enable one to stop long for to examine the whole process. This mass issues, hardens and is brought away and used for roofing houses with. These roofs are very uncomfortable both for the volcanic smell and the inconvenience of its dropping down by the least heat of the sun forming a pitchy sticky stuff round the house on which it is employed. It might be employed and cured in a better way for avoiding this inconvenience. The naptha floats out at sea and in so strong and heavy quantity that it partly settles the stormy waves. . . .

* The following short extracts and sketches are published herein by permission of The Society of California Pioneers, copyright owner, from the original manuscript, now in the collection of the Society, as published in their *Quarterly*, vol. 3, no. 2. Photos are by Mary Rae Hill. Sandels' complete account has recently been issued under the sponsorship of The Book Club of California, and printed by Grabhorn Press [1945] as *A Sojourn in California by The King's Orphan—The Travels and Sketches of G. M. Waseurtz af Sandels, a Swedish Gentleman Who Visited California in 1842-43*.

"Several early Californians, Bidwell, Sutter, and others, have mentioned the visit in 1842-3 of an educated Swedish gentleman known as Dr. Sandels (G.M. Waseurtz of Sandels), who lived in Brazil, lost a fortune in mining operations in Mexico, and who declared that there was gold in the region of New Helvetia.

"Some time before the discovery of gold at Sutter's Mill, Sandels, evidently far gone in consumption, called on Col. T. B. Thorpe, a journalist in New Orleans, saying that he was, in his own country, one of the 'King's Orphans'. That is, he had been educated at a government institution, one of whose requirements was that the pupil, after receiving his education, should travel in foreign lands, record his impressions, and send the manuscript to the institution's archives. The manuscript, however, remained in the hands of Col. Thorpe, and later was given to the Associated Pioneers of the Territorial Days of California after being arranged in a scrap-book by Samuel C. Upham.

"It is a narrative of the author's voyage from Acapulco to Monterey in September 1842, and of his observations while traveling in California. . . .

"Of the chronology of his movements not much is known save that he was in Sonoma in February or March 1843, and in Santa Barbara in April. In September of that year he sailed on the *Diamond* for Honolulu.

"This original manuscript with its delightful pencil and water color sketches, for Sandels was also an artist, is now in the possession of The Society of California Pioneers. A portion of it was published in the *San Jose Pioneer* in 1878-9, and another portion in a compilation in Upham's 'Notes on a voyage to California'. Such parts as we are giving here, however, are printed without change or correction, just as Sandels himself translated his story from the Swedish." From *The King's Orphan's Manuscript, Translated from the Swedish by the Author, G. M. Waseurtz af Sandels*, in the Society of California Pioneers *Quarterly* vol. 3, no. 2, foreword, June 1926.

"Another incident I may mention. There arrived on this coast a certain Dr. Sandels a scientific gentleman. He was a Swede by birth but educated in London. . . . The Doctor came as far north as Chico Creek with Mr. Dicky but did not examine the mountains except the Buttes. On his return he told Sutter that there were indications of gold but that unless the mountains on the sides were richer than those in the valley the mines would not pay to work." John Bidwell, in *California, 1841-8*, manuscript in the Bancroft Library, University of California.



FIGURE 41. COPPY OF A WOODCUT IN PADRE SERRAS DESCRIPTION OF CALIFORNIA REPRESENTING MONTEREY BAY.

[In the region of Mt. Diablo] Next day I saddled my horse and went in search of the lime kilns and after having examined them, I went strolling about the country quite alone as customary, searching for minerals and looked at the formation of the hills. We landed now the lime and in two days put to sea again after having been obliged to tug or draw the schooner back through the slue for to come out in the bay.

[Sutter's Fort] A two story roomy and convenient building is placed in the center of an enclosure of unbaked bricks or adobe, layed very thick, I believe about ten feet, having a turret with its embrazures and loopholes for fire arms which are provided plentifully, Mr. Sutter having purchased all the Russian establishment [Fort Ross] arms. All around the inside of the walls are erected living and store houses, most of them thatched with straw, schingles having been too scarce yet for covering more than the principle houses. A constant watch is kept at the ponderous gates by an armed servant dressed as a militia soldier.



FIGURE 42. PORT OF ST. DIEGO IN UPPER CALIFORNIA.



FIGURE 43. THE ORIGINAL PENCIL SKETCH OF THE R. CH. MISSION ST. LUIS OBISPO IN CALIFORNIA IN THE VALLEY OF BEARS, 1843 [?].



FIGURE 44. MISSION STA. CLARA ON THE BAY OF ST. FRANCISCO—CONTAINING 1500 INDIANS AND A GOOD STOCK OF CATTLE.

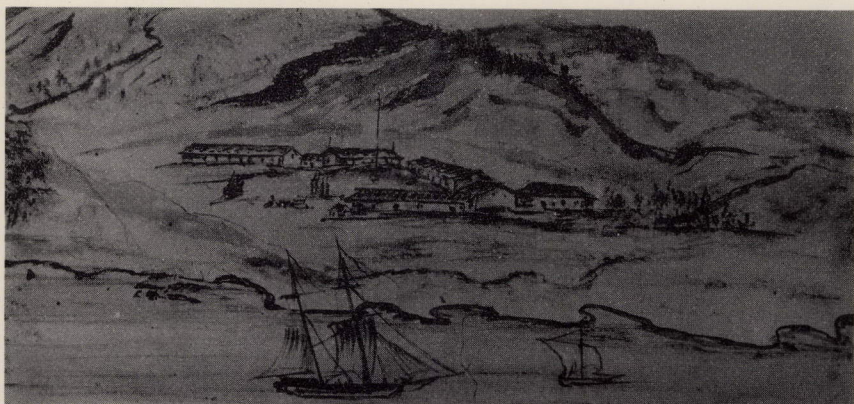


FIGURE 45. THE MILITARY BARACKS OF ST. FRANCISCO IN CALIFORNIA.

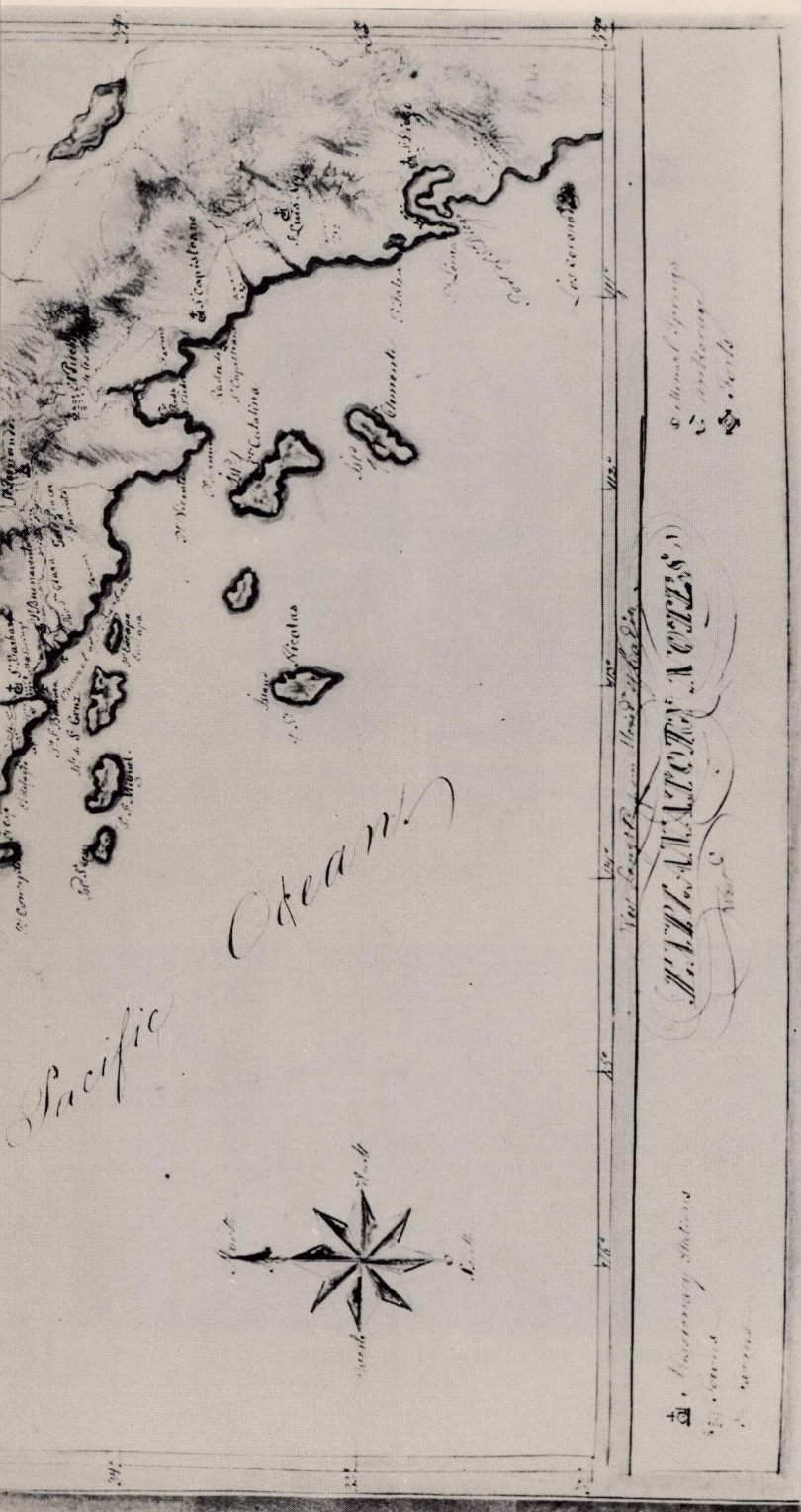


FIGURE 46. THE ORIGINAL SKETCH OF A MAP OF UPPER CALIFORNIA CORRECTED DURING TRAVELLING AND RESIDENCE IN THAT COUNTRY ONE YEAR AND A HALF.

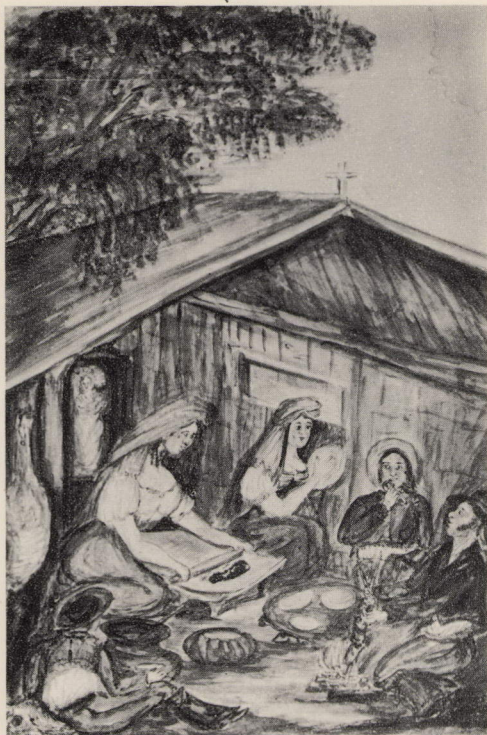


FIGURE 47. ROUGH SKETCH OF A KITCHEN AND DINING ROOM ON A FARM IN CALIFORNIA.

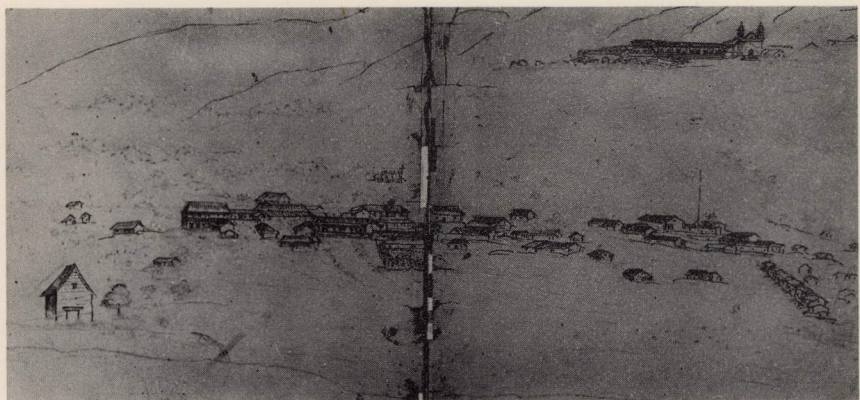


FIGURE 48. STA. BARBARA IN CALIFORNIA.

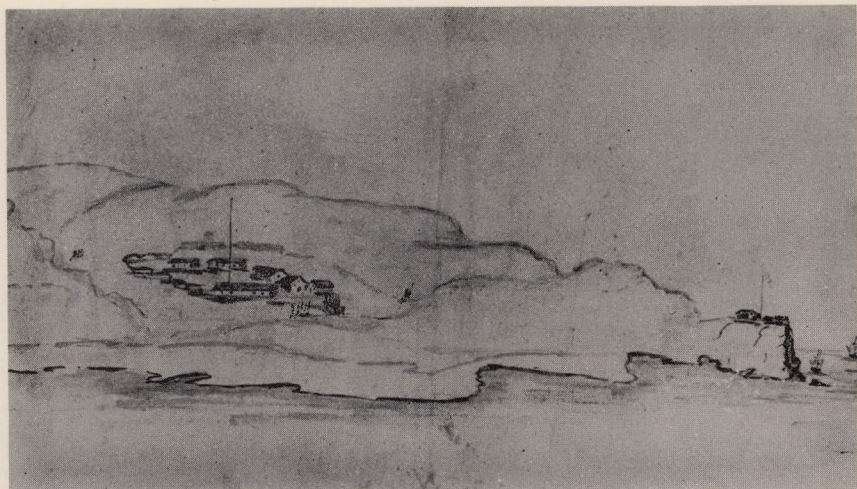


FIGURE 49. ORIGINAL PENCIL SKETCH OF FORT AND PORT OF ST. FRANCISCO IN CALIFORNIA.



FIGURE 50. PENN SKETCH OF THE TOWN AND CHH MISSION STA BARBARA IN CALIFORNIA 1844.



FIGURE 51. VISTA DEL PUEBLO DE LOS ANGELES EN ALTA CALIFORNIA.



FIGURE 52. THE SEA TOWN AND PORT YERBA BUENA IN ST. FRANCISCO BAY IN CALIFORNIA. Legend: (1) Hudson's Bay Co. building; (2) Old mill; (3) G. Reynold's residence; (4) Capt. Antonio Ortega's residence; (5) Wm. A. Leidesdorff cottage; (6) City Hotel (Wm. A. Leidesdorff); (7) Capt. John Paty's adobe building; (8) Juan C. Davis' residence; (9) Peter I. Sherback's residence; (10) Sill's blacksmith shop; (11) Jesus Noe's residence; (12) Old adobe custom house; (13) Juan N. Padilla's residence; (14) Leidesdorff warehouse; (15) W. H. Davis' store; (16) Capt. Wm. Hinckley's residence; (17) Gen. M. G. Vallejo's (or Ignacio Vallejo's) building.

EDWIN BRYANT

**On Adobe Buildings at San Jose, Mission and Pueblo
1846 ***

September 18 [1846].— A *carretada* of fossil oyster shells was shown me by Mr. Livermore, which had been hauled for the purpose of being manufactured into lime. Some of these shells were eight inches in length, and of corresponding breadth and thickness. They were dug from a hill two or three miles distant, which is composed almost entirely of this fossil. Several bones belonging to the skeleton of a whale, discovered by Mr. L on the summit of one of the highest elevations in the vicinity of his residence were shown to me. The skeleton when discovered was nearly perfect and entirely exposed, and its elevation above the level of the sea between one and two thousand feet. . . .

We entered through a narrow street the mission of San José, or St. Joseph. Passing the squares of one-story adobe buildings, once inhabited by busy Indians, but now deserted, roofless, and crumbling into ruins, we reached the plaza in front of the church and the massive two-story edifices occupied by the *padres* during the flourishing epoch of the establishment. These were in good repair, but the doors and windows with the exception of one were closed, and nothing of moving life was visible except a donkey or two, standing near a fountain which gushed its waters into a capacious stone trough. . . .

Belonging to the mission are two gardens, enclosed by high adobe walls. After dinner we visited one of these. The area of the enclosure contains fifteen or twenty acres of ground, the whole of which is planted with fruit-trees and grape-vines. . . . The gardens are irrigated with very little trouble, from large springs which flow from the hills a short distance above them. Numerous aqueducts, formerly conveying and distributing water over an extensive tract of land surrounding the mission, are still visible, but as the land is not now cultivated, they at present contain no water.

The mission buildings cover fifty acres of ground, perhaps more, and are all constructed of adobes with tile roofs. Those houses or barracks which were occupied by the Indian families, are built in compact squares, one story in height. They are generally partitioned into two rooms, one fronting on the street, the other upon a court or corral in the rear. The main buildings of the mission are two stories in height, with wide corridors in front and rear. The walls are massive, and if protected from the winter rains, will stand for ages. But if exposed to the storms by the decay of the projecting roofs, or by leaks in the main roof, they will soon crumble, or sink into shapeless heaps of mud. I passed through extensive warehouses and immense rooms, once occupied for the manufacture of woollen blankets and other articles, with the rude machinery still standing in them, but unemployed. Filth and desolation have taken the place of cleanliness and busy life. The granary was very capacious, and its dimensions were an evidence of the exuberant fertility of the soil, when properly cultivated under the superintendence of the *padres*. The calaboose is a miserable dark room of two apartments, one with a small loophole in the wall, the other a dungeon without light or ventilation. The stocks, and several other inventions for the punishment of offenders, are still standing in this prison. I requested permission

* From *What I Saw in California: Being the Journal of a Tour, By the Emigrant Route and South Pass of the Rocky Mountains, Across the Continent of North America, the Great Desert Basin, and Through California, In the Years 1846, 1847.* By Edwin Bryant, Late Alcalde of St. Francisco. Second Edition. New York: D. Appleton & Company, 200 Broadway. Philadelphia: Geo. S. Appleton, 148 Chesnut-Street. M DCC XL VIII.

to examine the interior of the church, but it was locked up, and no person in the mission was in possession of the key. Its length I should suppose is from one hundred to one hundred and twenty feet, and its breadth between thirty and forty, with small exterior pretensions to architectural ornament or symmetry of proportions. . . .

Sept. 19.— We arrived at the Pueblo de San José about 12 o'clock. . . . The Pueblo is a village containing some six or eight hundred inhabitants. . . . The buildings with few exceptions, are constructed of adobes, and none of them have even the smallest pretensions to architectural taste or beauty. The church, which is situated near the centre of the town, exteriorly resembles a huge Dutch barn. The streets are irregular, every man having erected his house in a position most convenient to him. Aqueducts convey water from the Santa Clara river to all parts of the town. . . .

The Pueblo de San José is one of the oldest settlements in Alta California. Captain Fisher pointed out to me a house built of adobes, which has been standing between 80 and 90 years, and no house in the place appeared to be more substantial or in better repair.

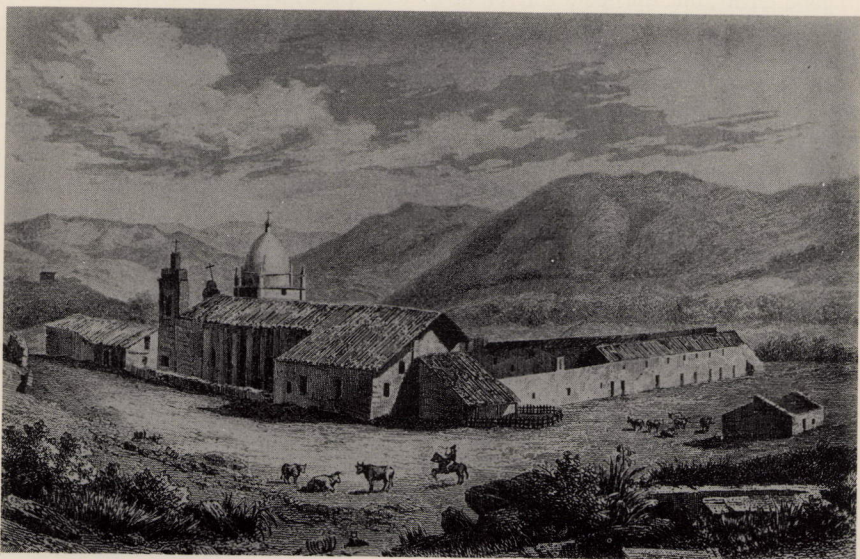


FIGURE 53. MISSION DE N-D. DU CARMEL AUX ENVIRONS DE SAN CARLOS DE MONTEREY, CALIFORNIE. Arthus Bertrand, Editeur. *Voy. de l'Artémise*. Tom. 6^e. From *Campagne de circumnavigation de la frégate l'Artémise, pendant les années 1837, 1838, 1839 et 1840, sous le commandement de M. Laplace, Capitaine de Vaisseau, publié par ordre du Gouvernement, sous les auspices du Ministre de la Marine. Tome Sixième*. Paris, Arthus Bertrand, Éditeur, Libraire de la Société de Géographie rue Hautefeuille, 21, 1854. Photo by courtesy of Bancroft Library, University of California.

WALTER COLTON
On Adobe and Stone Construction at Monterey
1846-49 *

FRIDAY, JULY 17 [1846]. The bay of Monterey circles up broad and deep into the coast. It is far from being land-locked, and yet the southern bend is sufficiently sheltered to afford a safe and quiet anchorage. The town is built within a circling range of forest-feathered hills, and on a plain that descends in easy slopes to the strand of the bay. A more inviting picturesque location for a city never entered a poet's dream. The buildings are reared of adobes, covered with a white layer of lime; they are seldom over one story and a half, and are ornamented with porticoes running the entire front. The streets are broad but irregular, and the hills around connect themselves with the gleaming walls of cottages which as yet exist only in your imagination.

FRIDAY, JULY 31. Nearly all the houses in Monterey are of one story, with a corridor. The walls are built of adobes, or sun-baked brick, with tiled roofs. The centre is occupied by a large hall, to which the dining-room and sleeping apartments seem mere appurtenances. Every thing is in subordination to the hall, and this is designed and used for dancing. It has a wood floor, and springs nightly to the step of those who are often greeted in the whirl of their amusements, by the risen sun. The dance and a dashing horse are the two objects which overpower all others in interest with the Californians. The fiddle has been silent since our flag went up,† from the fact that many of the gentlemen have left to join Gen. Castro. But if they return, though covered with disaster, the fiddle will be called upon to resume its fantastic functions. You might as well attempt to extinguish a love of air in a life-preserver as the dancing propensity in this people.

THURSDAY, AUG. 27. Nothing puzzles me so much as the absence of a penitentiary system. There are no work-houses here; no buildings adapted to the purpose; no tools, and no trades. The custom has been to fine Spaniards, and whip Indians. The discrimination is unjust, and the punishment ill suited to the ends proposed. I have substituted labor; and have now eight Indians, three Californians, and one Englishman at work making adobes. They have all been sentenced for stealing horses or bullocks. I have given them their task: each is to make fifty adobes a day, and for all over this they are paid. They make seventy-five, and for the additional twenty-five each gets as many cents. This is paid to them every Saturday night, and they are allowed to get with it any thing but

* From *Deck and Port; or, Incidents of a Cruise in the United States Frigate Congress to California. With Sketches of Rio Janeiro, Valparaiso, Lima, Honolulu, and San Francisco.* By Rev. Walter Colton, U.S.N. New York: Published by A. S. Barnes & Co., No. 51 John-Street. Cincinnati:—H. W. Derby & Co. 1850. And from *Three Years in California.* By Rev. Walter Colton, U.S.N., Late Alcalde of Monterey; Author of "Deck and Port," etc., etc. With Illustrations. New York: Published by A. S. Barnes & Co. No. 51 John-Street. Cincinnati:—H. W. Derby & Co. 1850.

The first book is Colton's Journal of the voyage from Norfolk, Virginia, around Cape Horn, to San Francisco, and covers the period October 1845 to July 1846. The second book is a continuation of the Journal, kept from July 1846 to June 1849, when Colton was Alcalde of Monterey.

† Colton here refers to the raising of the American flag at Monterey by Commodore Sloat, which occurred about a week before the arrival of the *Congress* at that port.



FIGURE 54. SAN FRANCISCO IN 1846. Coltons Deck & Port. Lith. of Sarony. Photo by courtesy of Bancroft Library, University of California.

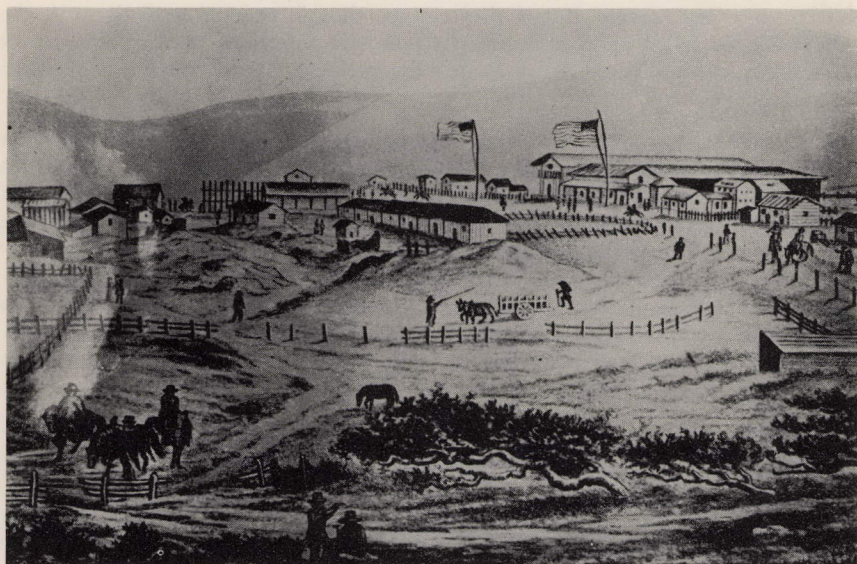


FIGURE 55. SURROUNDINGS OF MISSION DOLORES, 1849, engraved from a print published in 1850. Photo by Mary Rae Hill, from the collection of the Society of California Pioneers.



FIGURE 56. MONTEREY—CAPITOL OF CALIFORNIA [1846]. Sketched by J. W. Revere U.S.N. Lith. of Wm. Endicott & Co. N. York. Published by C. S. Francis & Co. N. York. Photographed from "A Tour of Duty in California", by Joseph Warren Revere, Lieutenant, U. S. Navy, New York, 1849, in the library of The Society of California Pioneers, by Mary Rae Hill.

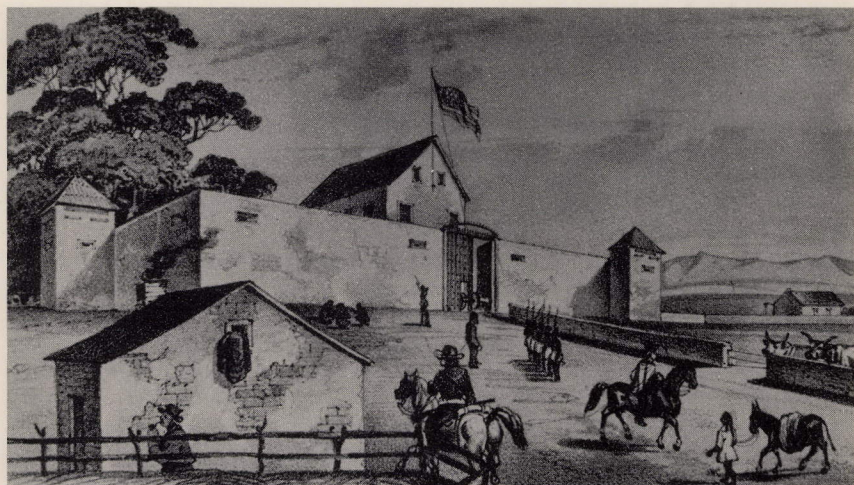


FIGURE 57. SUTTER'S FORT—NEW HELVETIA [1846]. Sketched by J. W. Revere U.S.N. Lith. of Wm. Endicott & Co. N. York. Published by C. S. Francis & Co. N. York. Photographed from "A Tour of Duty in California", by Joseph Warren Revere, Lieutenant, U. S. Navy, New York, 1849, in the library of The Society of California Pioneers, by Mary Rae Hill.

rum. They are comfortably lodged and fed by the government. I have appointed one of their number captain. They work in the field; require no other guard; not one of them has attempted to run away.

WEDNESDAY, MARCH 4 [1847] I shall set the prisoners quarrying stone for a school-house, and have already laid the foundations. The building is to be sixty feet by thirty—two stories, suitably proportioned, with a handsome portico. The labor of the convicts, the taxes on rum, and the banks of the gamblers, must put it up. Some think my project impracticable; we shall see.

MONDAY, APRIL 12. The old prison being too confined and frail for the safe custody of convicts, I have given orders for the erection of a new one. The work is to be done by the prisoners themselves; they render the building necessary, and it is but right they should put it up. Every bird builds its own nest. The old one will hold an uninventive Indian, but a veteran from Sidney or Sing Sing would work his way out like a badger from his hole, which the school urchin had obstructed. I had an experience with one a few nights since, and he went through the roof with ball and chain. How he ever reached the rafters, unless the man in the moon magnetized him, I cannot conjecture. But out he got, and it cost me a California chase to catch him.

WEDNESDAY, MAY 12. A nest of gamblers arrived in town yesterday, and last evening opened a monte at the hotel honored with the name of the Astor House. I took a file of the soldiers, and under cover of night reached the hotel unsuspected, where I stationed them at the two doors which afforded the only egress from the building. In a moment I was on the stairs which lead to the apartment where the gamesters were congregated. I heard a whistle, and then footsteps flying into every part of the edifice. On entering the great chamber, not a being was visible save one Sonoranian reclining against a large table smoking his cigarito. I passed the complements of the evening with him, and desired the honor of an introduction to his companions.

At this moment a feigned snore broke on my ear from a bed in the corner of the apartment—"Ha! Dutre, is that you? Come, tumble up, and aid me in stirring out the rest." He pointed under the bed, where I discovered, just within the drop of the valance a multitude of feet and legs radiating as from a common centre. "Hallo there, friends—turn out!" and out came some half-dozen or more, covered with dust and feathers, and odorous as the nameless furniture left behind. Their plight and discovery threw them into a laugh at each other. From this apartment, accompanied by my secretary, I proceeded to others, where I found the sleepers stowed away in every imaginable position—some in the beds, some under them, several in closets, two in a hogshead, and one up a chimney. Mr. R——, from Missouri—known here under the soubriquet of "the prairie wolf"—I found between two bed-ticks, with his coat and boots on, and half smothered with the feathers. He was the ringleader, and raises a monté table wherever he goes as regularly as a whale comes to the surface to blow. All shouted as he tumbled out from his ticks. Among the rest I found the alcalde of San Francisco, a gentleman of education and refinement, who never plays himself, but who, on this occasion, had come to witness the excitement. I gathered them all, some fifty in number, into the large saloon, and told them the only speech I had to make was in the shape of a fine of twenty dollars each. The more astute began to demur on the plea of not guilty, as no cards and no money had been discovered; and as for the beds, a man had as good a right to sleep under one as in it. I told them that was a matter of taste, misfortune often made strange bedfellows, and the only way to get out of the scrape was to pay up. Dr. S——

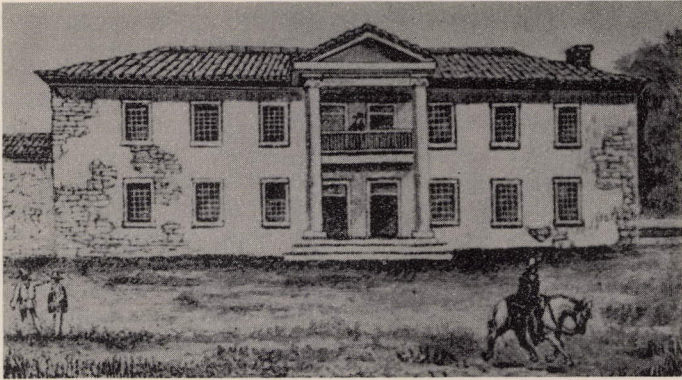


FIGURE 58. Colton Hall, Monterey. Photo from the collection of the California Historical Society.

was the first to plank down. "Come, my good fellows," said the doctor, "pay up, and no grumbling; this money goes to build a schoolhouse, where I hope our children will be taught better principles than they gather from the example of their fathers." The "prairie-wolf" planked down next, and in ten minutes the whole, Chillanos, Sonorians, Oregonians, Californians, Englices, Americanos, delivered in their fines. These, with the hundred dollar fine of the keeper of the hotel, filled quite a bag. With this I bade them good night, and took my departure. I hope the doctor's prediction will prove true; certainly it shall not be my fault if it turns out a failure. In all this there was not an angry look or petulant remark; they knew I was doing my duty, and they felt that they atoned in part for a violation of theirs through their fines. If you must hold office be an alcalde, be absolute, but be upright, impartial, and humane.

FRIDAY, JUNE 18. One of the prisoners, who is an Englishman, ventured a criticism on the stonework of another prisoner, which revealed the fact of his being a stonemason himself. I immediately sat him at work at his old trade. But he feigned utter ignorance of it, and spoiled several blocks in making his feint good. I then ordered him into a deep well, where the water had given out, to drill and blast rocks. He drove his drills here for several days, and finding that the well was to be sunk some twenty or thirty feet deeper, concluded it was better for him to work in the upper air, and requested that he might be permitted to try his chisel again. Permission was given, and he is now shaping stones fit to be laid in the walls of a cathedral. He was taken up for disorderly conduct, and he is now at work on a schoolhouse, where the principles of good order are the first things to be taught.

TUESDAY, MARCH 8 [1849]. The town-hall, on which I have been at work for more than a year, is at last finished. It is built of white stone, quarried from a neighboring hill, and which easily takes the shape you desire. The lower apartments are for schools; the hall over them—seventy feet by thirty—is for public assemblies. The front is ornamented with a portico, which you enter from the hall. It is not an edifice that would attract any attention among public buildings in the United States; but in California it is without a rival. It has been erected out of the slender proceeds of town lots, the labor of the convicts, taxes on liquor shops, and fines on gamblers. The scheme was regarded with incredulity by many; but the building is finished, and the citizens have assembled in it,

and christened it after my name, which will now go down to posterity with the odor of gamblers, convicts, and tipplers. I leave it as humble evidence of what may be accomplished by rigidly adhering to one purpose, and shrinking from no personal efforts necessary to its achievement. A prison has also been built, and mainly through the labor of the convicts. Many a joke the rogues have cracked while constructing their own cage; but they have worked so diligently I shall feel constrained to pardon out the less incorrigible. It is difficult here to discriminate between offenses which flow from moral hardihood, and those which result, in a measure, from untoward circumstances. There is a difference in the turpitude of the two; and an alcalde under the Mexican law, has a large scope in which to exercise his sense of moral justice. Better to err a furlong with mercy than a fathom with cruelty. Unmerited punishment never yet reformed its subject; to suppose it, is a libel on the human soul.

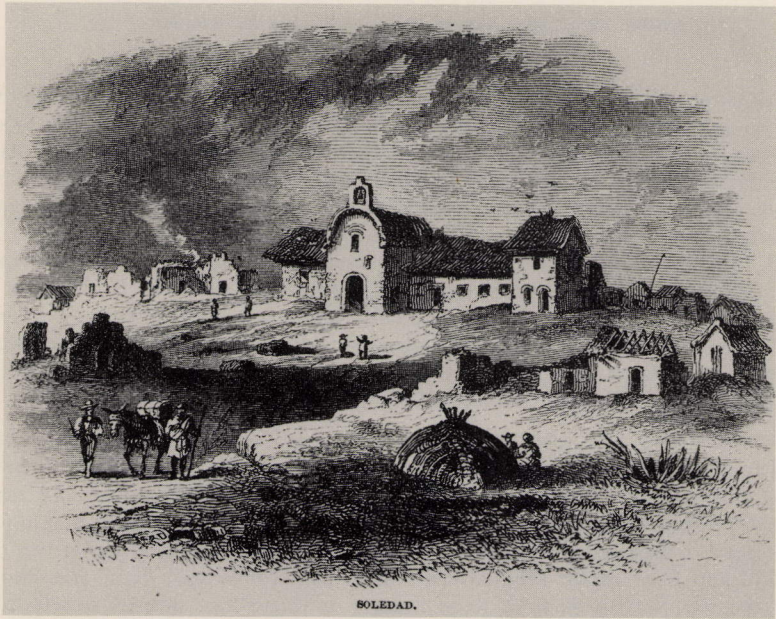


FIGURE 59. SOLEDAD [1849]. A more desolate place than Soledad can not well be imagined. The old church is partially in ruins, and the adobe huts built for the Indians are roofless, and the walls tumbled about in shapeless piles. Not a tree or shrub is to be seen any where in the vicinity. The ground is bare, like an open road, save in front of the main building (formerly occupied by the priests), where the carcasses and bones of cattle are scattered about, presenting a disgusting spectacle. . . . From *A Dangerous Journey, in Crusoe's Island: A Ramble in the Footsteps of Alexander Selkirk*. By J. Ross Browne, Author of "Etchings of a Whaling Cruise," "Yusef," &c. New York: Harper & Brothers, Publishers, Franklin Square. 1864. Photo by courtesy of California State Library.

WILLIAM RICH HUTTON
Sketches of California Buildings as They Appeared
1847-52

William Rich Hutton of Washington, D. C., came to California in 1847 and remained until 1852, working as clerk to his uncle, an army paymaster, and also as a surveyor and draftsman. Ninety-five of his pencil drawings and water-colors, the majority of which depict scenes in California during the early years of American occupation and statehood, are now in the collection of the Henry E. Huntington Library and Art Gallery, in San Marino; forty-six of them have been published in *California, 1847-1852, Drawings by William Rich Hutton Reproduced from the Originals in the Huntington Library: San Marino, California, 1942*.

All of Hutton's drawings published herein, with the exception of the first (*The Mission of San Gabriel in California*), are reproduced from the originals in The Huntington Library collection, by courtesy of the Library.



FIGURE 60. THE MISSION OF SAN GABRIEL IN CALIFORNIA, DRAWN BY WILLIAM HUTTON OF WASHINGTON CITY. Photo from the collection of the California Historical Society.



FIGURE 61. SAN LUIS REY. MARCH 17, 1848.

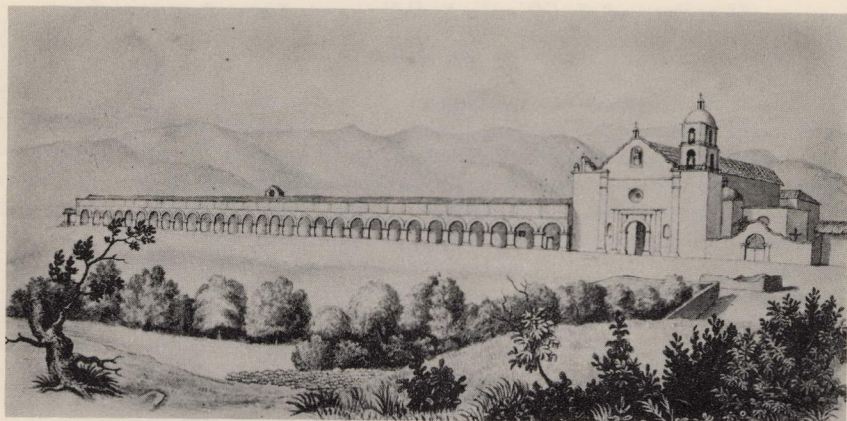


FIGURE 62. SAN LUIS REY, 1848. MISSION OF ST. LOUIS (THE KING)—LONGEST BUILDING IN CALIFORNIA.



FIGURE 63. FORT MOORE. AMERICAN FORT AT PUEBLO DE LOS ANGELES FROM MR. PRYOR'S HOUSE—JULY 10, 1847.

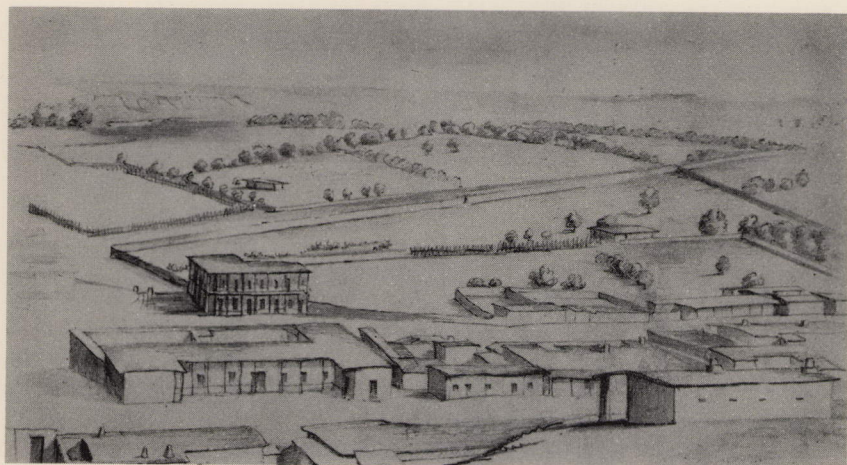


FIGURE 64. LOS ANGELES PUEBLO—PART OF TOWN AND VINEYARDS, 1847.

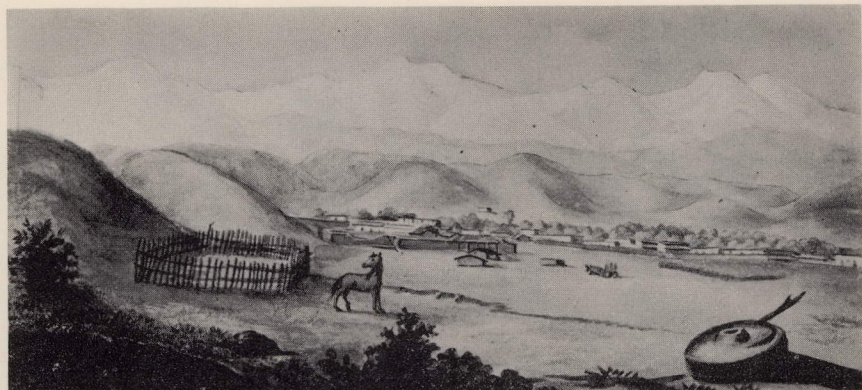


FIGURE 65. LOS ANGELES, APRIL 1848.

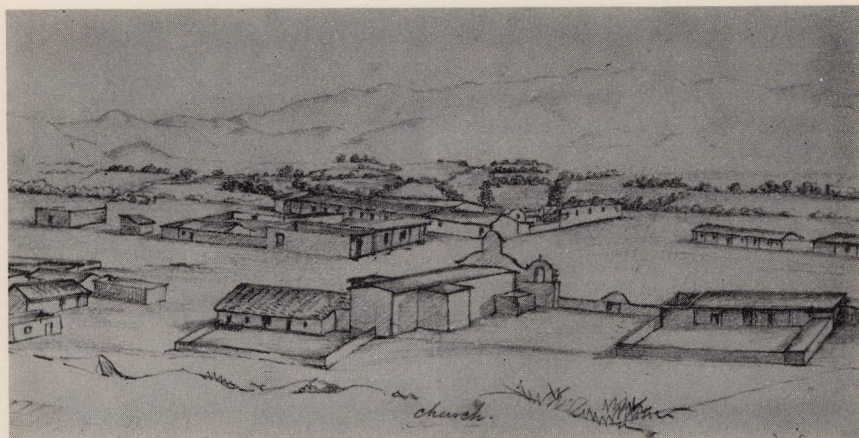


FIGURE 66. PART OF LOS ANGELES, 1847.



FIGURE 67. SANTA BARBARA, 1848.



FIGURE 68. MISSION SANTA BARBARA.

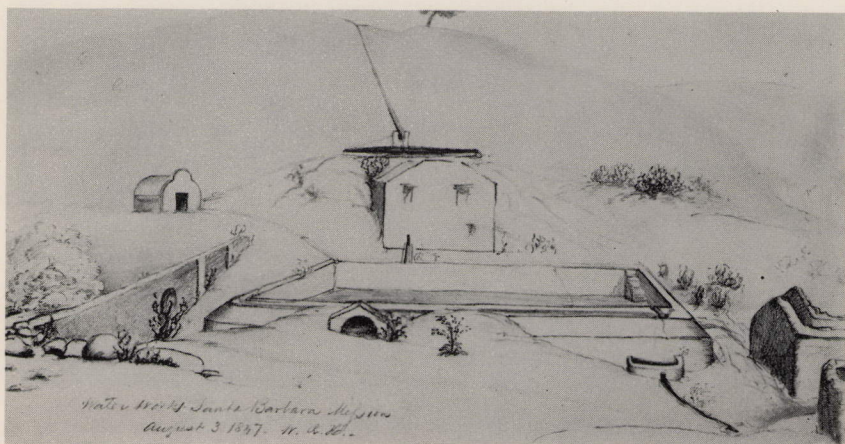


FIGURE 69. WATER WORKS, SANTA BARBARA MISSION, AUGUST 3, 1847.

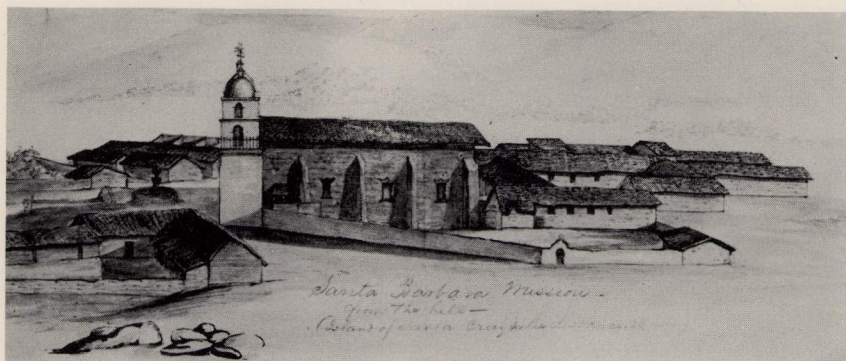


FIGURE 70. SANTA BARBARA MISSION—FROM THE HILL—(ISLAND OF SANTA CRUZ IN DISTANCE, 25 MILES). 1852.

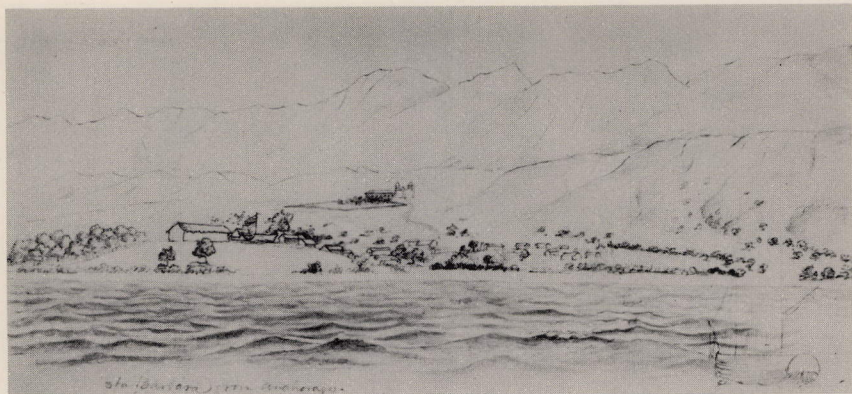


FIGURE 71. SANTA BARBARA FROM THE ANCHORAGE, JUNE 30, 1847.

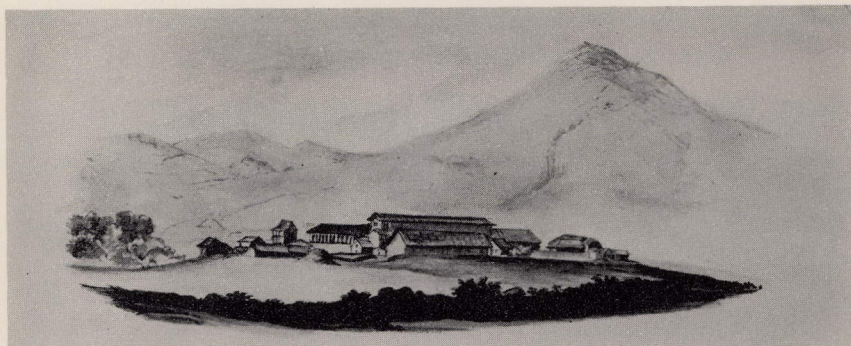


FIGURE 72. MISSION OF SAN LUIS OBISPO, DEC. 3, 1850.

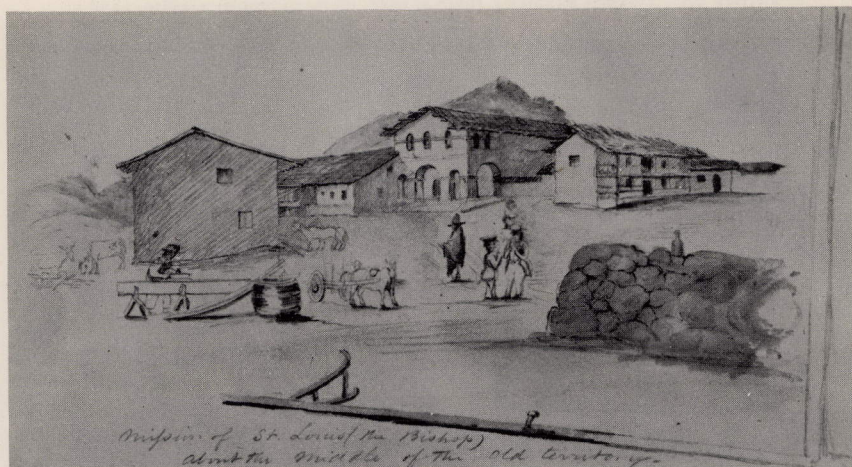


FIGURE 73. MISSION OF ST. LOUIS (THE BISHOP) ABOUT THE MIDDLE OF OLD TERRITORY—S. LUIS OBISPO. DEC. 27, 50.

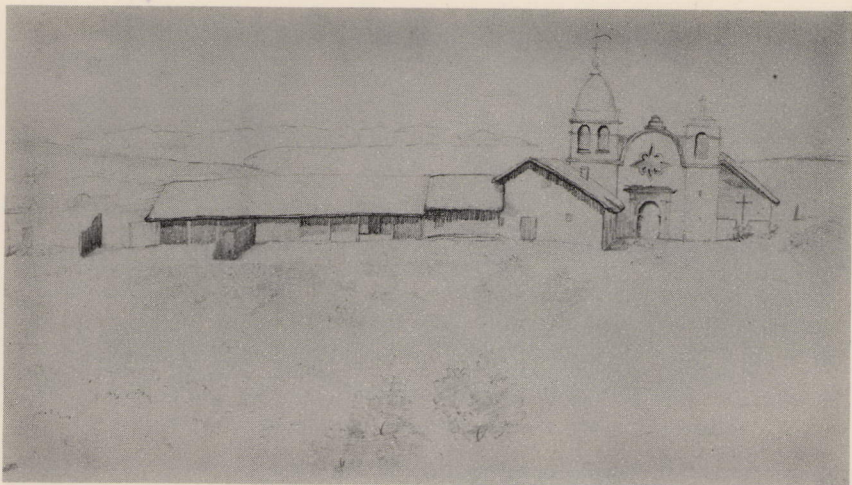


FIGURE 74. SAN CARLOS DE MONTERREY. CARMEL MISSION. 1847.



FIGURE 75. CARMEL MISSION, JUNE 3, 1847. (Perhaps Stanley's sketch, 1847.)



FIGURE 76. MISSION OF ST. CHARLES (CARMEL) NEAR MONTERREY—LOOKING N.E. MISSION DE SAN CARLOS, RIO CARMELO, JUNE 3d 1847.



FIGURE 77. SAN CARLOS DE MONTERREY (CARMELO).



FIGURE 78. MONTEREY IN 1849.

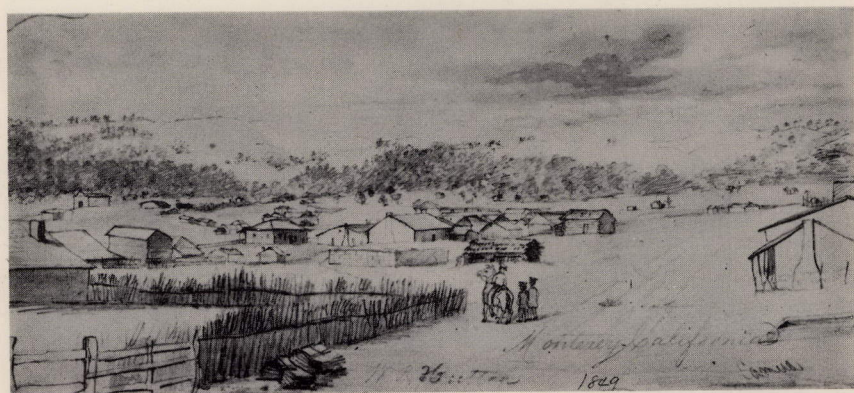


FIGURE 79. MONTEREY, CALIFORNIA—1849.



FIGURE 80. CUSTOM HOUSE, MONTEREY, 1848.

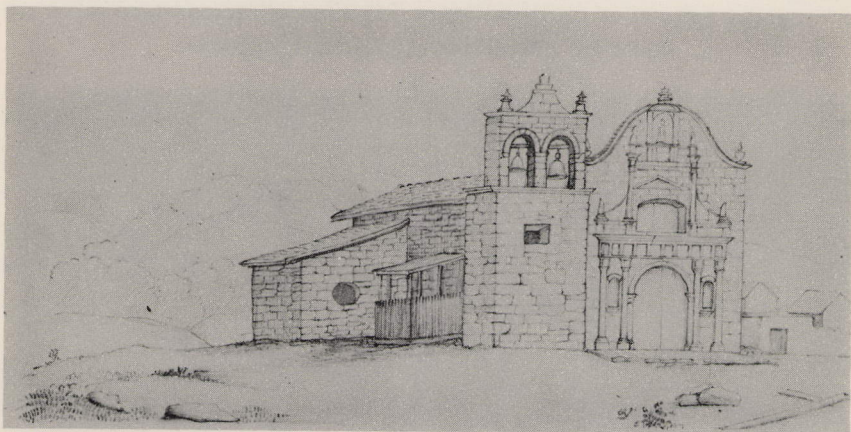


FIGURE 81. CHURCH OF ——— AT MONTEREY, MAY 18 [?], 1847. [La Capilla Real, or Church of San Carlos, the Presidio church in Monterey.]

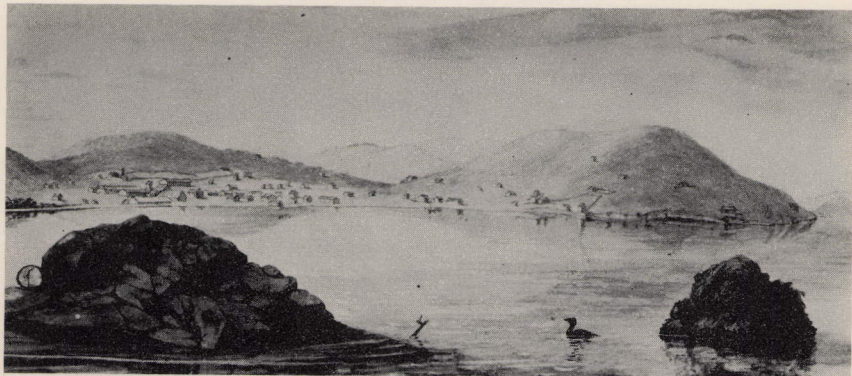


FIGURE 82. SAN FRANCISCO IN 1847, FROM RINCON POINT.

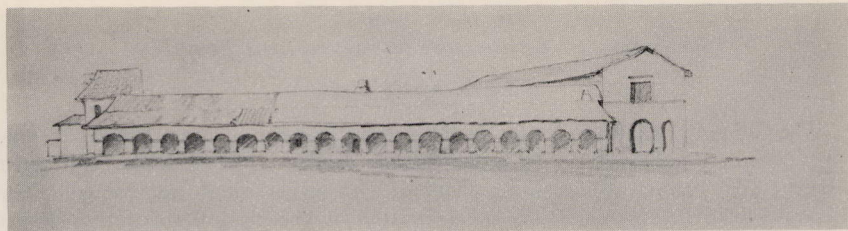


FIGURE 83. MISSION HOUSE OF ST. JOHN BAPTIST, SEPT. 29th 1847.

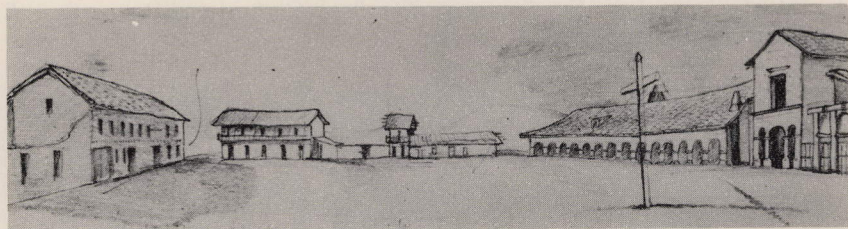


FIGURE 84. MISSION OF S. JUAN BAUTISTA. SEPT. 20, 1847. ST. JOHN BAPTIST NORTH OF MONTEREY.



FIGURE 85. SAN FRANCISCO IN 1847—FROM THE HILL BACK. SEPT.



FIGURE 86. SUTTER'S FORT IN APRIL, 1849.

H. M. T. POWELL
Sketches of California Missions and Pueblos

March-April 1850

The following sketches by H. M. T. Powell and the captions which accompany them are published herein by permission of The Grabhorn Press, copyright owner; Mr. Thomas W. Norris, owner of Powell's original *Journal*; and The Book Club of California. With the exception of the picture that accompanies the description of Soledad Mission, they are reproduced from *The Santa Fé Trail to California, 1849-1852: The Journal and Drawings of H. M. T. Powell*, Edited by Douglas S. Watson; San Francisco, The Book Club of California, E. & R. Grabborn, Publishers: 1931.

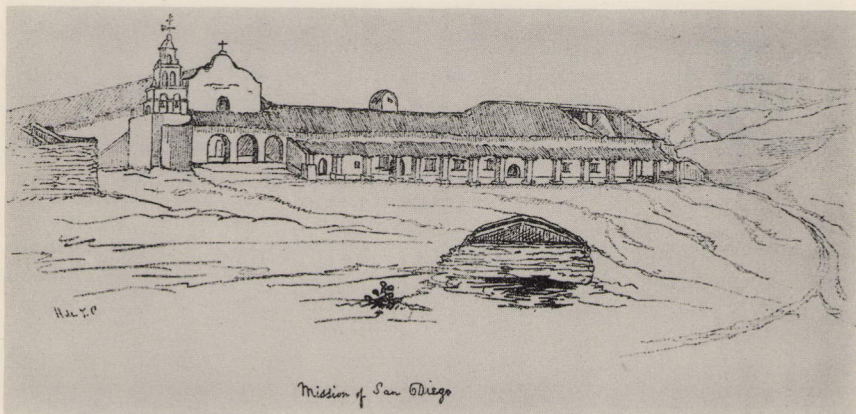


FIGURE 87. MISSION OF SAN DIEGO. Photo by courtesy of California State Library.



FIGURE 88. FLORES. "At a short distance we saw a Mission that we supposed to be the Mission of San Juan Capistrano. We stopped for the night by a small stream a little West of a small rancho. . . . Here we met the Mail Rider who said we were 22 Miles from San Juan Capistrano and that what we took for San Juan nearby was Flores. . . . About 1 league brought us to the little Mission of 'Flores'. Took a hasty sketch." [March 12-13, 1850]. Photo by courtesy of California State Library.

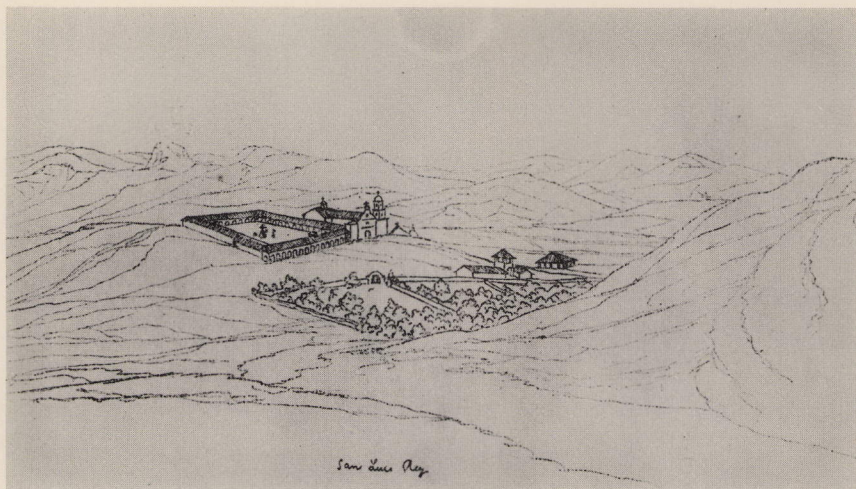


FIGURE 89. SAN LUIS REY. "The Mission is a very extensive quadrangle, enclosing about 2 acres, with colonnade all around the interior. . . . The Mission is built of brick and adobe. Can tell best of its appearance by my sketch." [March 12, 1850]. Photo by courtesy of California State Library.

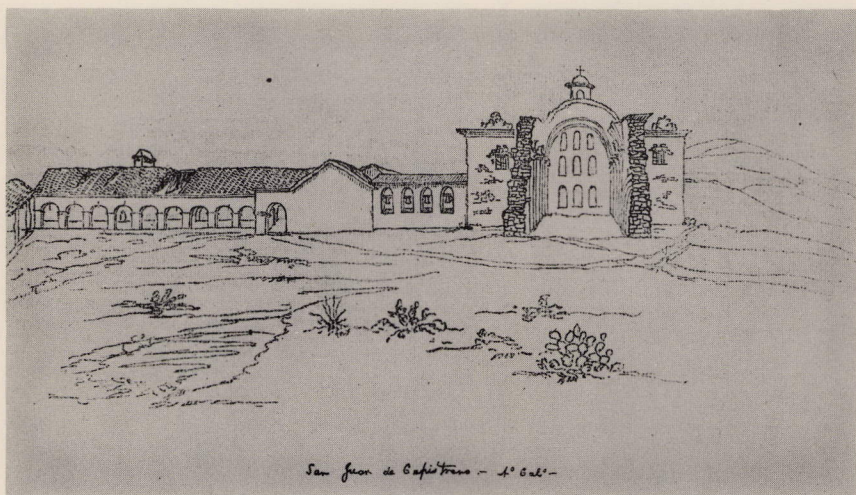


FIGURE 90. SAN JUAN DE CAPISTRANO. ". . . . Stopped a while at the Mission which is close by the river. The Church is built of gray stone, but is in ruins from an earthquake some years since. Many old adobe houses around, tiled with semi-cylindrical tiles common in this country. . . . With difficulty took a slight sketch, rain hindered me from taking a good one." [March 13, 1850]. Photo by courtesy of California State Library.

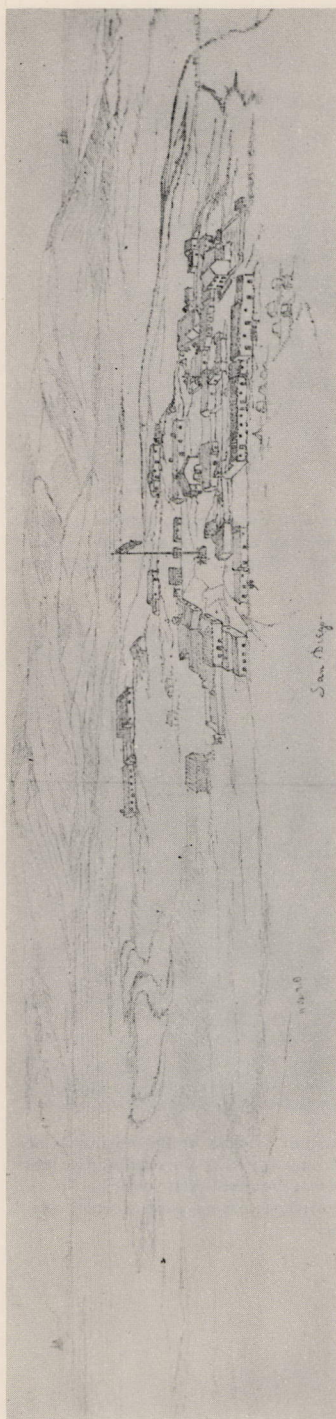


FIGURE 91. SAN DIEGO CITY. Photo by courtesy of California Historical Society.

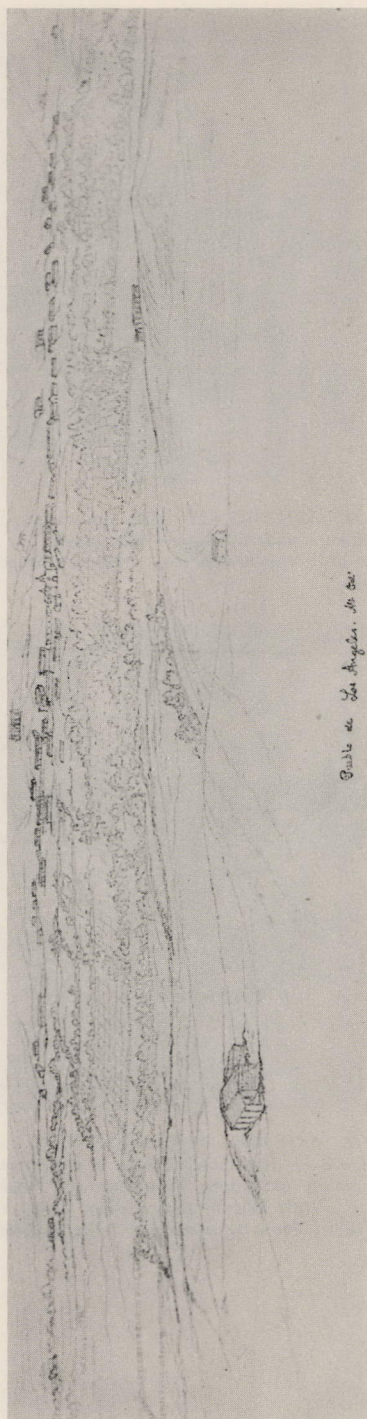


FIGURE 92. PUEBLO DE LOS ANGELES. "The Pueblo de Los Angeles is situated in a valley between some rolling hills, at the North end of the extensive Plain. . . . The houses are roofed with pitch got from a spring some 6 Miles West. Went over the river and took a sketch of the town." [March 16-17, 1850]. Photo by courtesy of California Historical Society.



FIGURE 93. SANTA BARBARA. [March 25, 1850]. Photo by courtesy of California Historical Society.

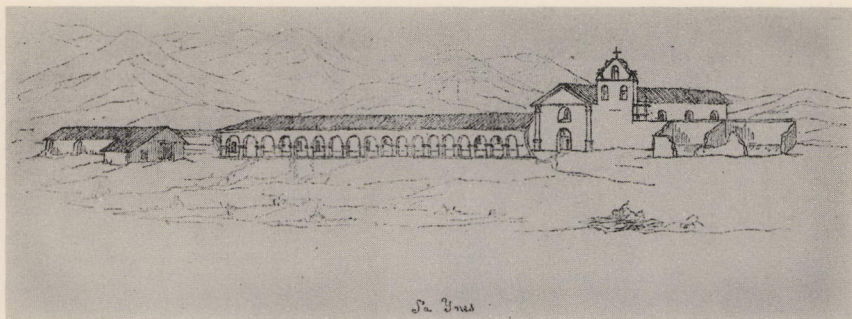


FIGURE 94. SA YNES. "I did not go into the Church but took a sketch. . . . There a great many large water tanks around the Mission." [March 28, 1850]. Photo by courtesy of California State Library.



FIGURE 95. SAN LUIS OBISPO. [April 1, 1850]. Photo by courtesy of California State Library.



FIGURE 96. "SUNDAY. . . . 8 Miles of Plain brought us to what looked like the bed of a mighty river, $\frac{1}{2}$ Mile wide at least, with banks on each side, some 20 feet deep. 3 streams ran down the middle of this. Ring says they were dry when he passed last September. . . . An acequia starts from here for the Mission, so that I think there must be a living stream above, (it is called 'Arroyo Seco'), but that it is lost in the sand down below here late in the summer and fall. Turned down this vast river bed into the immediate bottom of Buenaventura river, following it near the acequia 5 Miles to Mission of the 'Soledad'. The Mission is a mere ruin. No attempt at architectural ornament. Looks like a large rancho. Some adobe houses around." [April 7, 1850; a sketch of Soledad was made April 8.] Photo (Soledad Mission?) by courtesy of Mr. Thomas W. Norris.

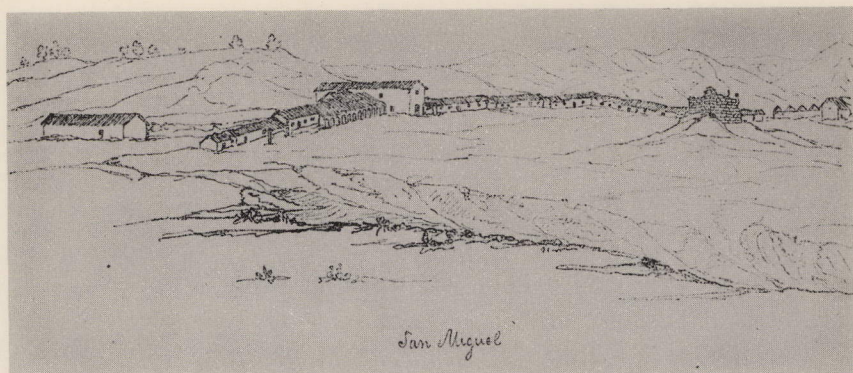


FIGURE 97. SAN MIGUEL. "About 2 Miles. . . . brought us to the Mission of 'San Miguel.' Took a sketch. I could not see the Church, as for some reason or other my horse became so frightened and unruly when near it that he was almost ungovernable. It was with difficulty that I could force him to pass through the large square." [April 4, 1850]. Photo by courtesy of California State Library.

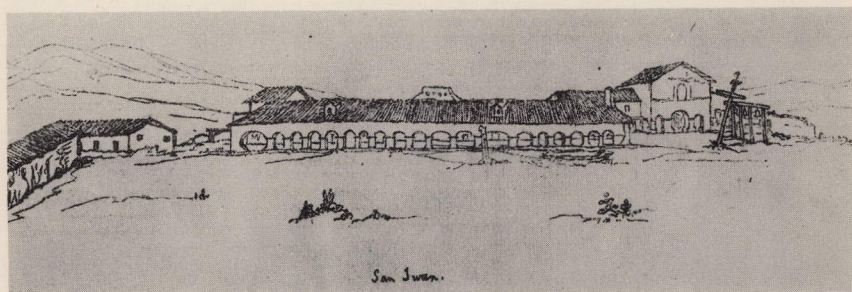


FIGURE 98. SAN JUAN [BAUTISTA]. ". . . . I took a very unsatisfactory sketch of the Mission of San Juan. There was no place for a point of view; all around being lower than the actual spot where the Mission and its buildings stood. I could only take a view of the Church and colonnade and front of the Mission buildings, which form one side of a square." [April 9, 1850]. Photo by courtesy of California State Library.

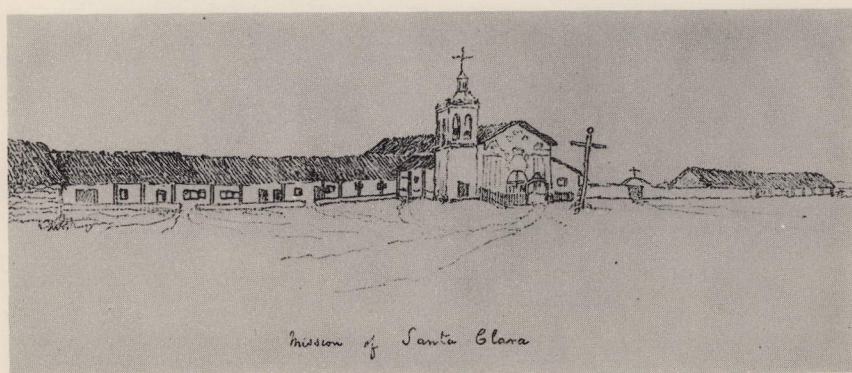


FIGURE 99. MISSION OF SANTA CLARA. Photo by courtesy of California State Library.

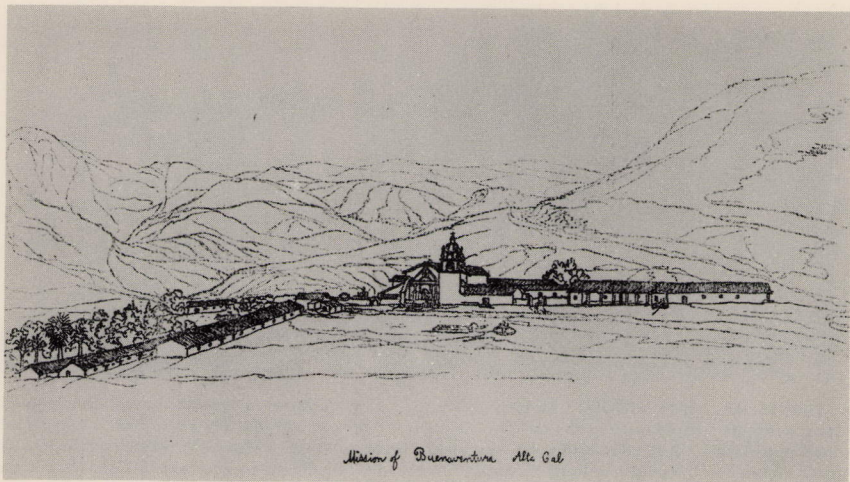


FIGURE 100. MISSION OF BUENAVENTURA. "Our way to the Mission of San Buenaventura was across a Plain through vast fields and tracts of mustard. . . . About 8 Miles to the Mission Church; 45 paces long, 9 broad, height in proportion; numbers of paintings in gilded frames. The altar place is Corinthian, painted and gilded elaborately. . . . Number of adobe houses; fine large gardens as usual with adobe walls; olive, pear and peach trees. Took a sketch." [March 22, 1850]. Photo by courtesy of California State Library.



FIGURE 101. MISSION OF SA BARBARA. "Went to the Mission about a Mile and half from the town. Took a sketch of it from a rock on the side hill and then turning round took a sketch of the town and Bay." [March 25, 1850]. Photo by courtesy of California State Library.

IN RETROSPECT
1850-1900



FIGURE 102. SANTA CLARA MISSION IN 1849, painted by Andrew P. Hill [1891]. The original painting is at Santa Clara University. Photo from the collection of The Society of California Pioneers.



FIGURE 103. SANTA CRUZ MISSION. From a painting by Toussaint. Photo from the collection of The Society of California Pioneers.

PAINTINGS AND SKETCHES BY VARIOUS ARTISTS
1850-1900

Since the close of the year 1850, many artists have taken up the pencil, pen, or brush to preserve on paper or canvas likenesses of the constructions of Spanish and Mexican days. Those whose works are included *In Retrospect* made a sincere attempt to produce accurate representations of the buildings, either as they saw them after 1850, or as they interpreted them from old records and from the recollections of persons familiar with them in earlier years.

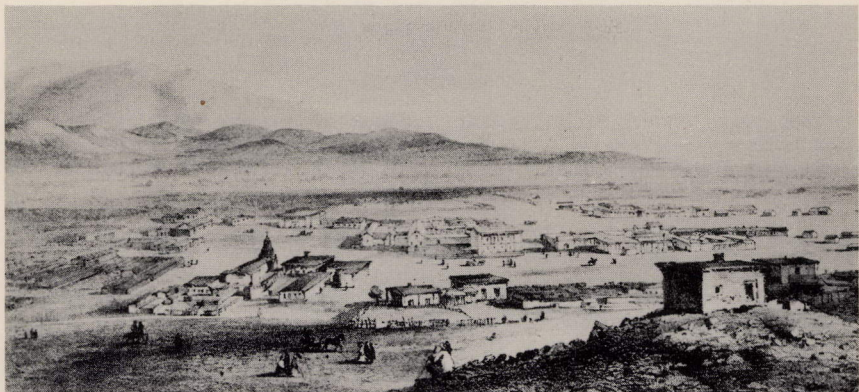


FIGURE 104. LOS ANGELES. U.S.P.R.R. Exp. & Surveys—Cal. Plate X. From *Report of Explorations in California for Railroad Routes to Connect with the Routes Near the 35th and 32d Parallels of North Latitude*, by Lieutenant R. S. Williamson, Corps of Topographical Engineers, 1853. Photo by Mary Rae Hill.



FIGURE 105. MISSION OF SAN DIEGO. U.S.P.R.R. Exp. & Surveys—Cal. Plate XII. From *Report of Explorations in California for Railroad Routes to Connect with the Routes Near the 35th and 32d Parallels of North Latitude*, by Lieutenant R. S. Williamson, Corps of Topographical Engineers, 1853. Photo by Mary Rae Hill.



FIGURE 106. MISSION OF SAN GABRIEL. From Report of Explorations in California for Railroad Routes to Connect with the Routes Near the 35th and 32d Parallels of North Latitude, by Lieutenant R. S. Williamson, Corps of Topographical Engineers, 1853. Photo by Mary Rae Hill.



FIGURE 107. SANTA ISABEL [Asistencia to Mission San Diego]. . . . Adobe buildings of great size were erected here in the time of the Padres, but are now partly in ruins. From Report of Explorations in California for Railroad Routes to Connect with the Routes Near the 35th and 32d Parallels of North Latitude, by Lieutenant R. S. Williamson, Corps of Topographical Engineers, 1853. Photo by Mary Rae Hill.



FIGURE 108. MISSION SANTA CLARA [in the early fifties]. W. H. Bartholomew. From *Pantoscope of California: A "Lecture" Together With Pencil Sketches Depicting the Journey Across the Plains to California*, by J. Wesley Jones. Photo from the collection of the California Historical Society.



FIGURE 109. THE PLAZA AT SONOMA. *From a water-color in the collection of the California Historical Society.*



FIGURE 110. MISSION DOLORES IN 1856. *From a drawing by W. H. Bull. Photo from the collection of The Society of California Pioneers.*



FIGURE 111. MISSION SAN DIEGO, 6 MILES FROM THE PACIFIC COAST. *Reproduced from a sketch by Alden, by courtesy of California Historical Society.*



FIGURE 112. MISSION SANTA BARBARA, JUNE 1855. From a water-color by J. M. Alden. Reproduced by permission of Old Mission, Santa Barbara.



FIGURE 113. CHAPEL OF THE PRESIDIO OF SANTA BARBARA, JUNE 1855. From a water-color by J. M. Alden. The presidio was founded April 21, 1872. The chapel was abandoned in 1855, because of its state of disrepair. Reproduced by permission of Old Mission, Santa Barbara.



FIGURE 114. THE MISSION SAN BUENAVENTURA, 1855. Painted by Lt. James Alden of the U. S. Coast Survey. Reproduced from the original in the collection of the California Historical Society.

PAINTINGS AND SKETCHES BY EDWARD VISCHER

1855-85

Figures 115 to 149, reproductions of sketches and paintings by Edward Vischer, have been obtained from the collections of photographs at The Society of California Pioneers, California Historical Society, and Huntington Library. A set of Vischer's original paintings is in the collection of the Bancroft Library, University of California, at Berkeley.

In 1872, in his *Missions of Upper California, 1872: Notes on the Californian Missions, a Supplement to Vischer's Pictorial of California*, Vischer made the following comments on his drawings:

"With the exception of San Diego, Santa Clara, and Mission of Dolores, which . . . are reproductions of earlier originals, the whole of the collection consists of our own drawings, mostly in 1865, when we visited the Southern Counties for that avowed purpose. All those sketches we tried to enliven with scenes of the olden times and incidents of Spanish and Mexican life; the groupings in many instances being portraits drawn from actuality or recollection."



FIGURE 115. RUINS OF THE PRESIDIO OF SAN DIEGO. . . . AT THE ENTRANCE OF MISSION VALLEY, 1874. Photo from the collection of The Society of California Pioneers.



FIGURE 116. CHURCH RUIN. WALLS AND ORCHARD-GROUNDS OF SAN DIEGO. . . . MISSION. Photo from the collection of The Society of California Pioneers.



FIGURE 117. MISSION SAN DIEGO. Distant view of the ruins from the river land in Mission Valley. Photo from the collection of The Society of California Pioneers.



FIGURE 118. INDIAN RANCHERIA. . . . MISSION SAN LUIS REY. Photo from the collection of The Society of California Pioneers.



FIGURE 119. RUINS OF THE CHURCH AND BUILDINGS OF THE MISSION OF SAN LUIS REY. Photo from the collection of The Society of California Pioneers.

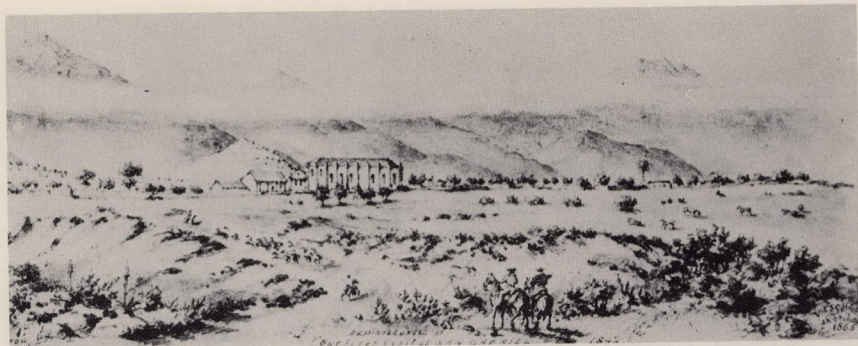


FIGURE 120. VIEW OF THE OLD ORCHARDS AND THE CHURCH OF THE EX-MISSION OF SAN GABRIEL. Reminiscences of our first visit at San Gabriel, 1842. No traces left of the mission buildings. Photo from the collection of the California Historical Society.

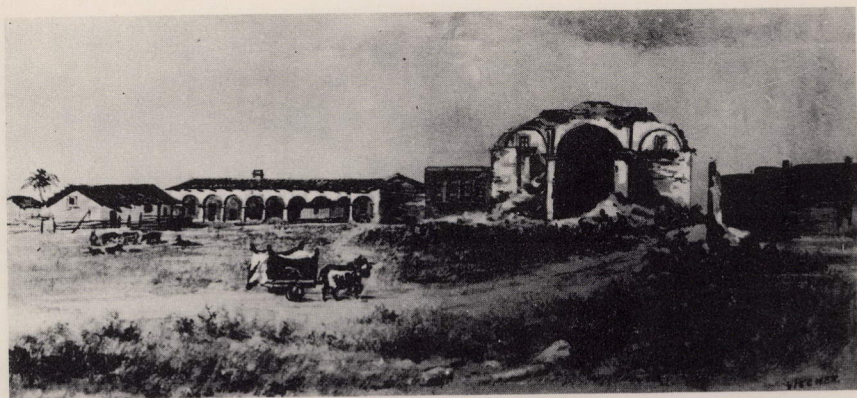


FIGURE 121. SAN JUAN CAPISTRANO, 1858. Photo from the collection of The Society of California Pioneers.



FIGURE 122. RUINS OF THE CHURCH AND BUILDINGS OF THE EX-MISSION OF SAN LUIS REY. Photo from the collection of The Society of California Pioneers.



FIGURE 123. CHAPEL AND PRINCIPAL BUILDINGS OF THE EX-MISSION SAN FERNANDO. *Photo from the collection of The Society of California Pioneers.*



FIGURE 124. MISSION SAN BUENAVENTURA, sketched in May 1865. *Photo from the collection of The Society of California Pioneers.*

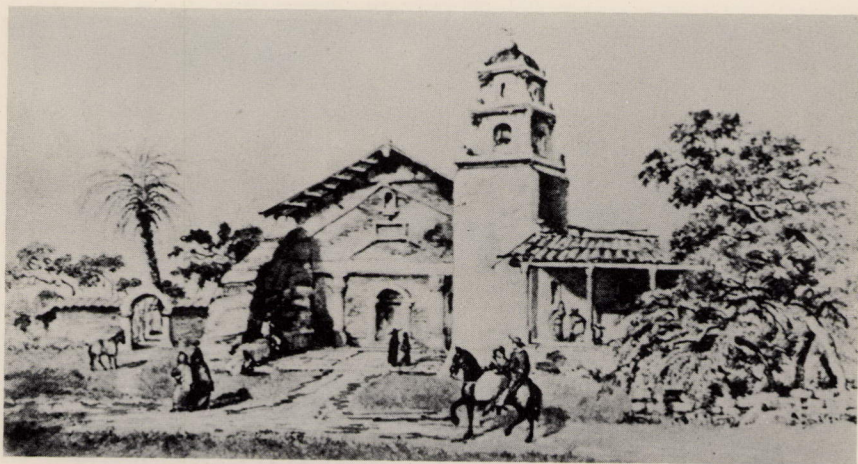


FIGURE 125. MISSION CHURCH OF SAN BUENAVENTURA. *Photo from the collection of The Society of California Pioneers.*

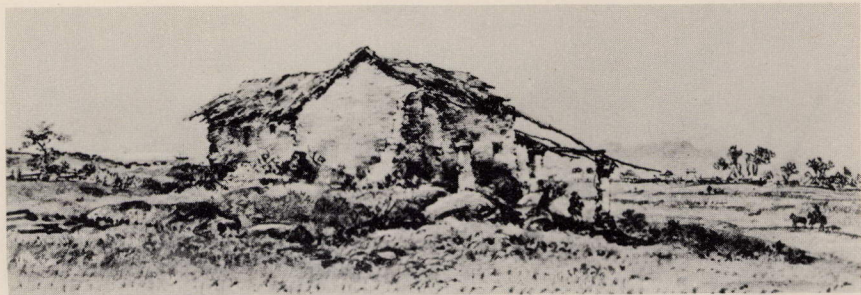


FIGURE 126. MISSION RUINS. The dilapidated guardhouse at the Santa Barbara Mission. View towards the bay. Sketched April 1865. Supplementary drawings of 1873. Photo from the collection of The Huntington Library.

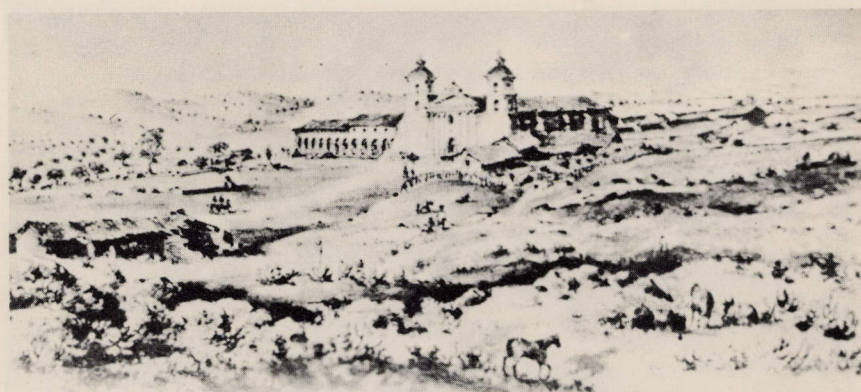


FIGURE 127. MISSION SANTA BARBARA. Photo from the collection of The Society of California Pioneers.



FIGURE 128. MISSION SANTA BARBARA. Photo from the collection of The Society of California Pioneers.



FIGURE 129. MISSION SANTA BARBARA. Photo from the collection of The Society of California Pioneers.



FIGURE 130. STA. INES MISSION BUILDINGS. Photo from the collection of The Society of California Pioneers.



FIGURE 131. MISSION SAN LUIS OBISPO. Western part of the town and the Mission, 1864. Photo from the collection of The Society of California Pioneers.



FIGURE 132. SANTA INES, 1865. North view of the church and ex-mission.
Photo from the collection of The Society of California Pioneers.



FIGURE 133. SAN MIGUEL, 1865. *Photo from the collection of The Society of California Pioneers.*

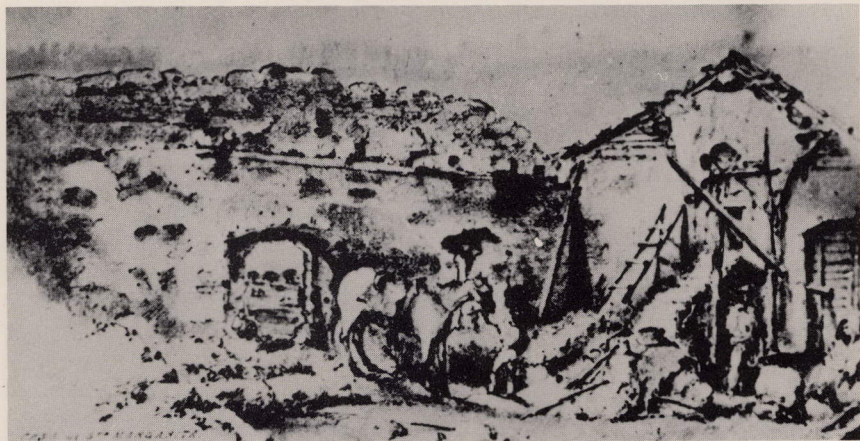


FIGURE 134. SANTA MARGARITA, RANCHO DE LA EX-MISSION DE SAN MIGUEL.
Sketched May 1864. Photo from the collection of The Society of California Pioneers.

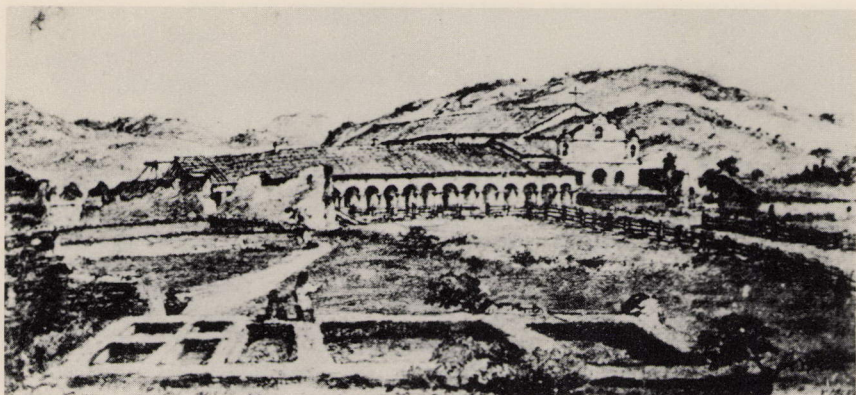


FIGURE 135. CHURCH, BUILDINGS AND RUINS OF THE MISSION OF SAN ANTONIO DE PADUA IN MONTEREY COUNTY. Photo from the collection of The Society of California Pioneers.



FIGURE 136. CASA DEL PASO DE ROBLES, THE OLD FARM BUILDINGS OF THE MISSION OF SAN MIGUEL, NEAR THE SHEEP-FARM OF JAMES BLACKBURN. Photo from the collection of The Society of California Pioneers.



FIGURE 137. SAN LUIS OBISPO. The lower (older) portion of the town and the Old Mission Buildings, as seen from the Mission Orchard. 1884. Photo from the collection of the California Historical Society.

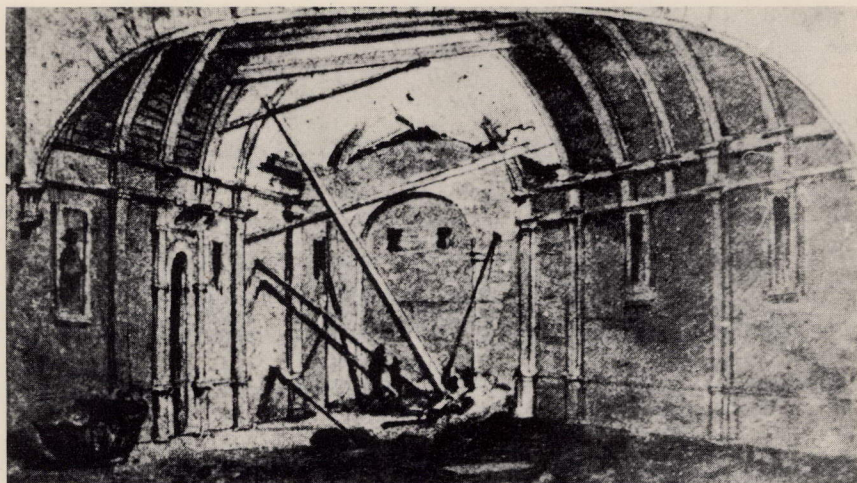


FIGURE 138. INTERIOR OF THE CHURCH. Mission San Carlos. Photo from the collection of The Society of California Pioneers.

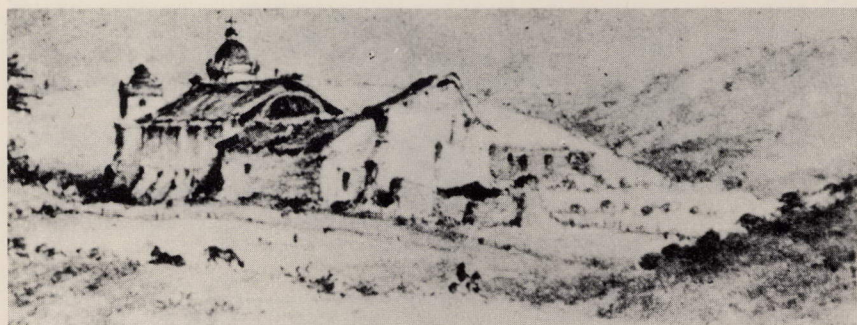


FIGURE 139. REAR VIEW OF THE RUINS OF THE MISSION OF SAN CARLOS, FROM THE SEA-SIDE. Photo from the collection of The Society of California Pioneers.

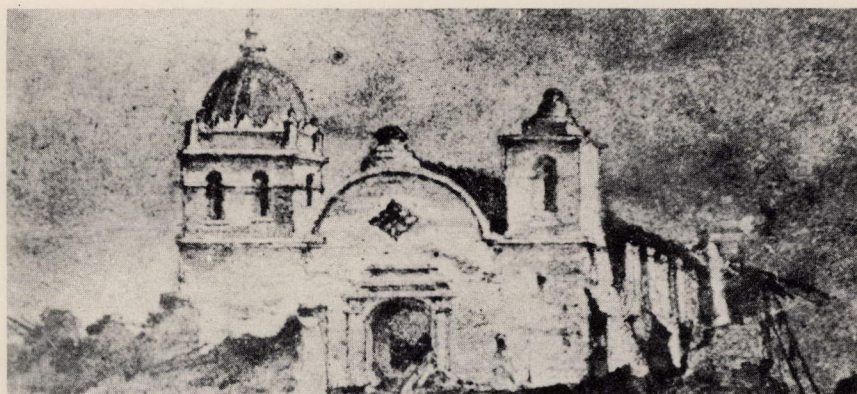


FIGURE 140. FRONT-VIEW OF THE CHURCH. Mission San Carlos. Photo from the collection of The Society of California Pioneers.



FIGURE 141. 1842. MONTEREY AT THE TIME OF THE ARRIVAL OF THE U. S. SQUADRON OF THE PACIFIC UNDER COM^D TH. APR. C. JONES from the Original by G. J. Denny. Photo from the collection of The Society of California Pioneers.



FIGURE 142. MISSION OF SAN JUAN BAUTISTA, MONTEREY COUNTY. Photo from the collection of The Society of California Pioneers.



FIGURE 143. RUINS OF THE OLD MISSION OF SAN CARLOS, AT THE MOUTH OF THE RIVER CARMELO. Photo from the collection of the California Historical Society.

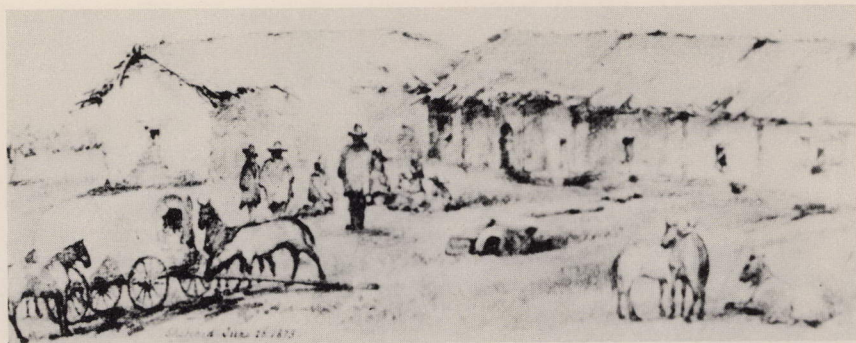


FIGURE 144. IMMIGRANT-ENCAMPMENT NEAR THE SOLEDAD MISSION-REMAINS IN THE SALINAS VALLEY, PROPERTY SOBERANIS. Sketched June 26, 1873. Photo from the collection of The Society of California Pioneers.

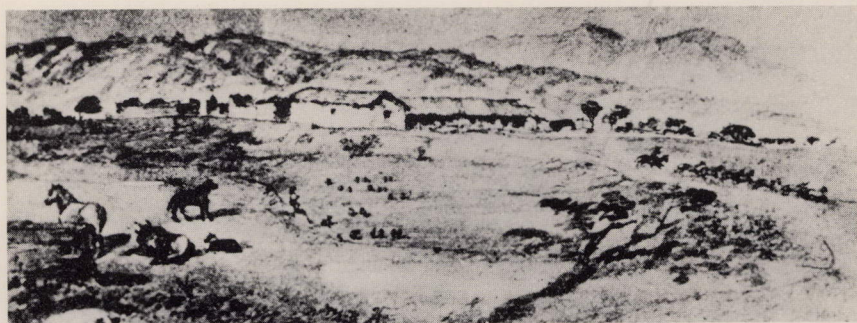


FIGURE 145. RUINS OF THE MISSION NUESTRA SENORA DE LA SOLEDAD, IN THE SALINAS PLAINS. Property of the Soberanis (1873). Photo from the collection of The Society of California Pioneers.



FIGURE 146. EX-MISSION & CHURCH, SANTA CLARA JESUIT COLLEGE. Photo from the collection of The Society of California Pioneers.

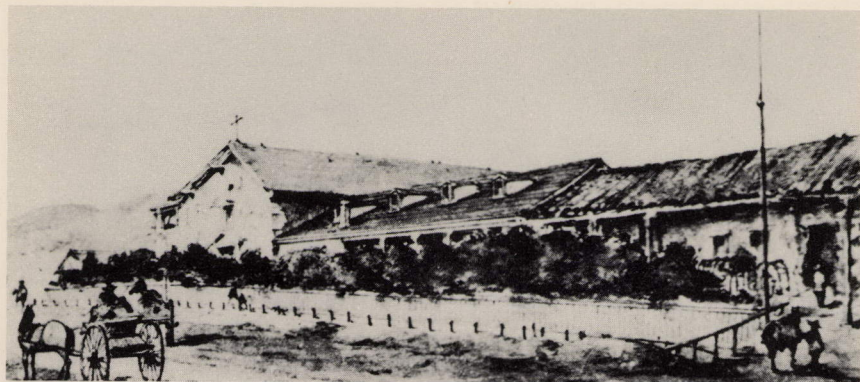


FIGURE 147. SKETCH OF THE CHURCH AND BUILDINGS OF THE MISSION OF SAN JOSE, UPPER CALIFORNIA, DRAWN AUGUST 16, 1866. Photo from the collection of The Society of California Pioneers.

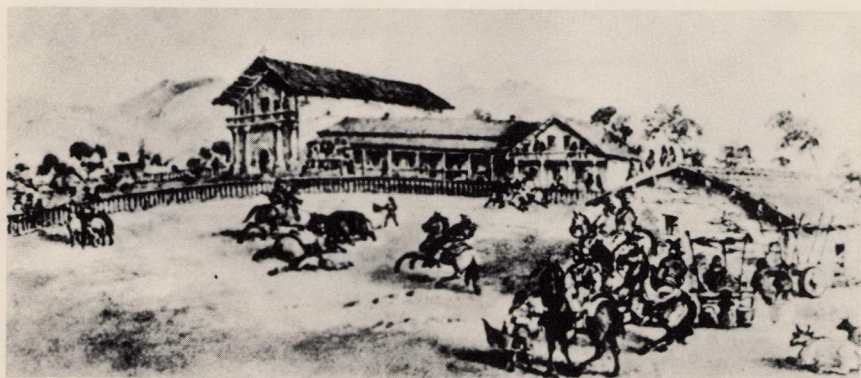


FIGURE 148. A REMINISCENCE OF 1842. Bull fight at Mission Dolores, in celebration of the Patron Saint, San Francisco de Asis. Sketched 1876. Photo from the collection of The Society of California Pioneers.



FIGURE 149. RENOVATED CHAPEL AND RUINS OF THE BUILDINGS OF THE EX-MISSION SAN FRANCISCO SOLANO. Sonoma, June 1874. Photo from the collection of The Society of California Pioneers.

PAINTINGS BY EDWIN DEAKIN
1870-99

Figures 150 to 170, reproductions of twenty-one paintings of California missions by Edwin Deakin, are included herein by permission of Miss Dorothy Deakin, copyright owner. The original paintings are now in the collection of the Los Angeles County Museum, Exposition Park, Los Angeles; photographs for reproduction were furnished by the Museum, by courtesy of Mr. Richard O'Brien, Librarian, and Mr. R. M. Ariss, Curator.

Mr. Deakin, in the introduction to his *The Twenty-One Missions of California—Reproductions from Paintings by Edwin Deakin, Fourth Edition*, Berkeley, 1901, wrote:

"Study for the pictures, from which these reproductions are made, was begun in 1870, sketches and studies of the Mission Dolores being made in that year, of San Buenaventura and Santa Ines in 1875, and of those that still exist at different times between the years 1870 and 1899. Of the three Missions that are wholly destroyed, careful studies of the sites have been made." He makes acknowledgment "To Mr. Watkins for use of photographs of Mission San Jose, taken before the earthquake of 1868, and another of the corridor of Mission San Luis Obispo. . . . To Mr. William J. Miller for full description of Mission San Rafael, now extinct." He obtained "the outlines of Santa Clara Mission from a daguerreotype taken about 1855", and "the outlines of the Santa Cruz Mission, now extinct from an old painting by L. Tousset." [See fig. 103.]



FIGURE 150. San Diego de Alcalá.



FIGURE 151. San Luis Rey de Francia.



FIGURE 152. San Juan Capistrano.

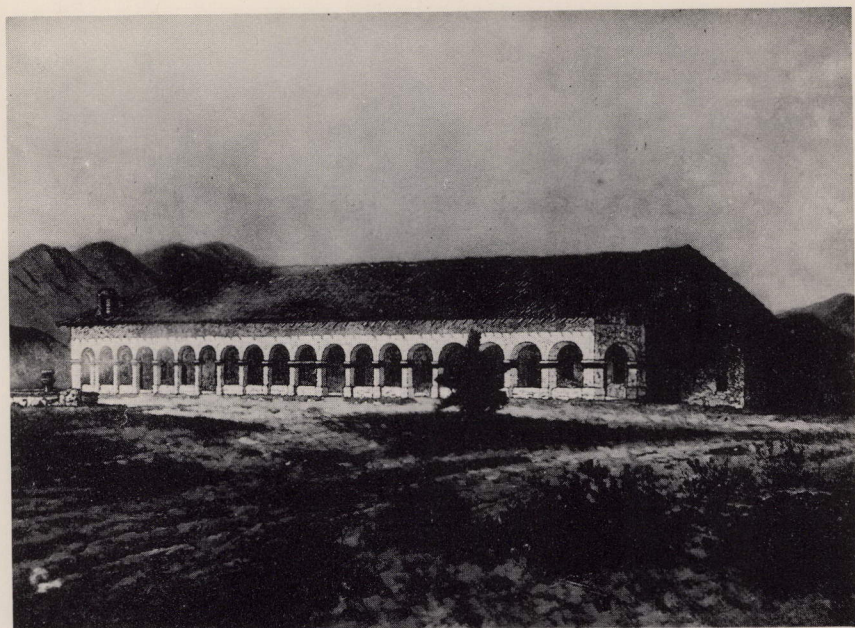


FIGURE 153. San Fernando Rey de España.

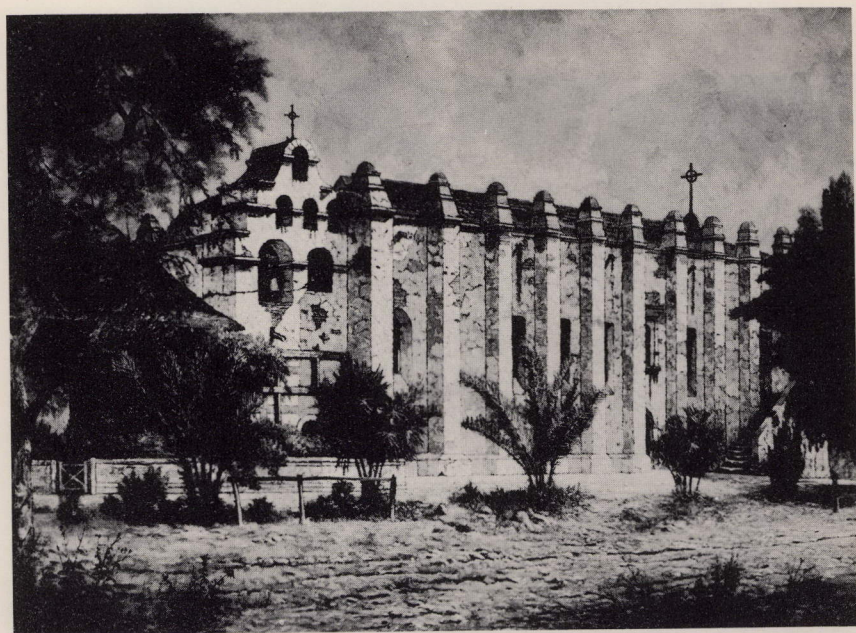


FIGURE 154. San Gabriel Arcángel.



FIGURE 155. San Buenaventura.

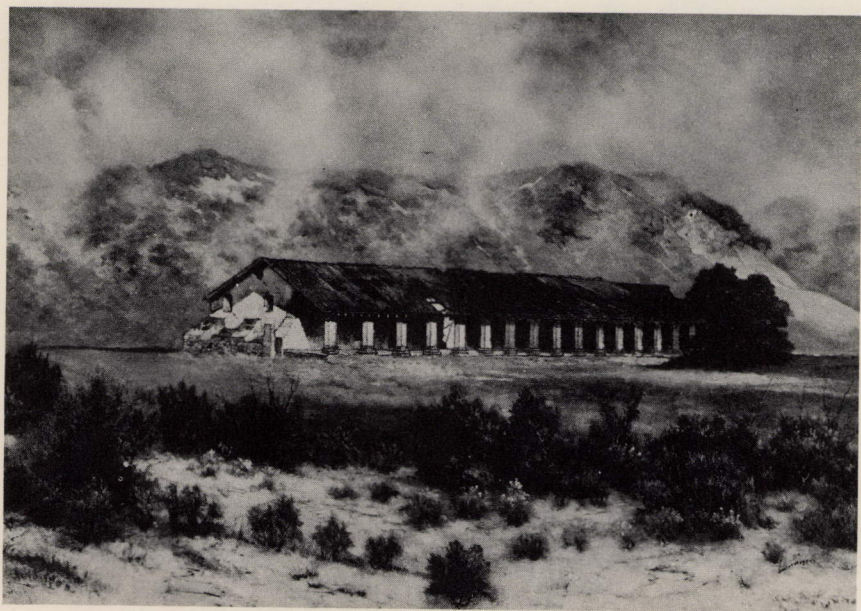


FIGURE 156. La Purísima Concepción.



FIGURE 157. Santa Bárbara.



FIGURE 158. Santa Ines.

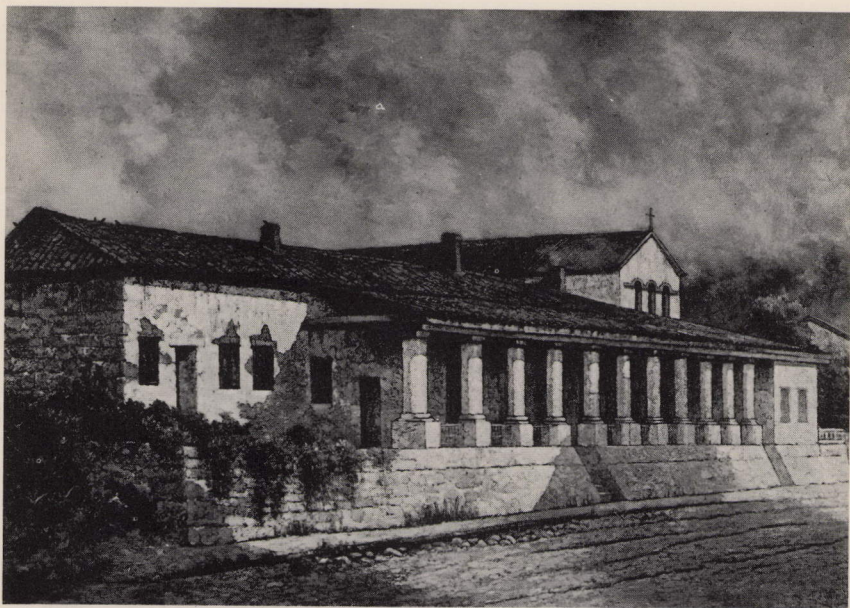


FIGURE 159. San Luis Obispo de Tolosa.



FIGURE 160. San Miguel Arcángel.



FIGURE 161. San Antonio de Padua.



FIGURE 162. Nuestra Señora de la Soledad.



FIGURE 163. San Carlos Borromeo del Carmelo.



FIGURE 164. San Juan Bautista.



FIGURE 165. Santa Cruz.



FIGURE 166. Santa Clara de Asís.



FIGURE 167. San José de Guadalupe.



FIGURE 168. San Francisco de Asís.



FIGURE 169. San Rafael Arcángel.

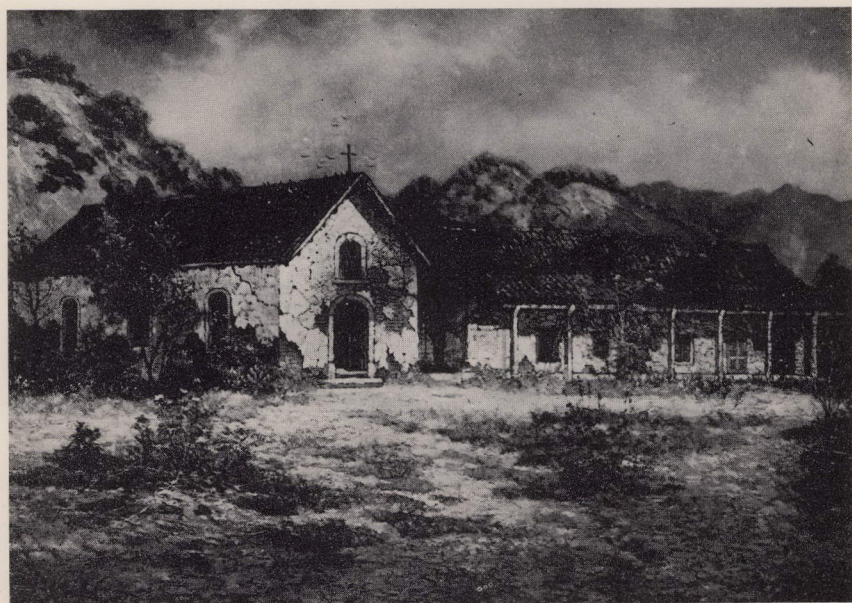


FIGURE 170. San Francisco de Solano.

ETCHINGS AND SKETCHES BY HENRY CHAPMAN FORD

1880-88

Figures 171 to 194 by Henry Chapman Ford are reproduced from “. . . . a series of twenty-four large etchings, comprising a complete and accurate representation of the old Franciscan Missions of California, with letter-press description and history, derived from Spanish records and personal investigation. . . . The original studies were made in oil colors; the work covered several years of effort. Excursions were made to each of these different missions, and no pains were spared in cases where a portion of them had been destroyed, to reproduce them in their original condition, from descriptions, drawings, and photographs. . . . Some of them have fallen into ruin, particularly those situated remote from towns, as the San Fernando, San Diego, Purisima, Soledad, and San Carlos; also the San Juan Capistrano, and the first Purisima, both of which were destroyed by earthquake in 1812. The others are in a fair state of preservation” *

* From a brochure in the collection of The Society of California Pioneers, *Etchings of the Franciscan Missions of California. With Outlines of History, Descriptions, etc.* By Henry Chapman Ford. Twenty-four Etchings (mounted 17 x 22) with Letter Press (in portfolio). This Imperial Edition is limited to 250 copies only. The Etchings are on Japan and the letter press on antique paper. Price, \$180. [ca. 1885.]

Figures 195 to 207, etchings and sketches also by Mr. Ford, were not included in the collection; they are from various sources.

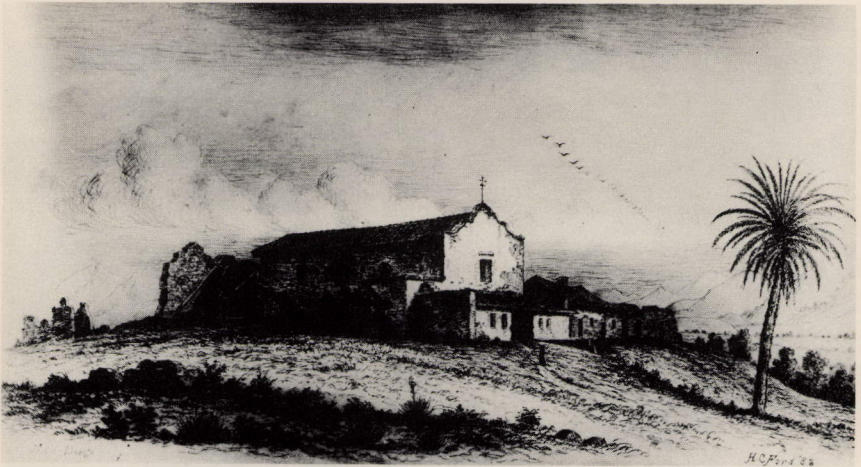


FIGURE 171. SAN DIEGO. 1883. Photo from the collection of The Society of California Pioneers.



FIGURE 172. SAN LUIS, REY DE FRANCIA. 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 173. SAN JUAN CAPISTRANO. 1883. Photo from the collection of *The Society of California Pioneers*.

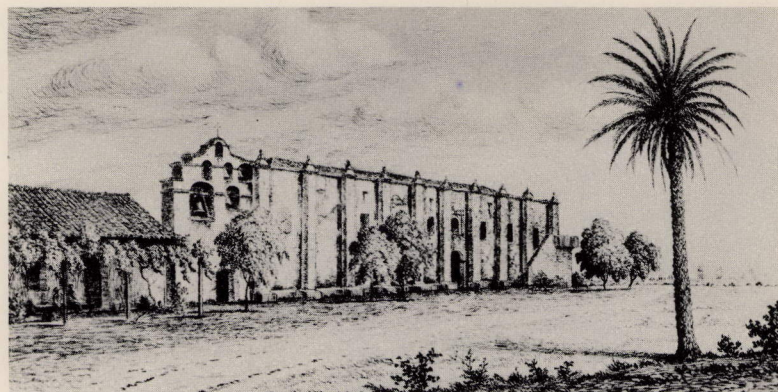


FIGURE 174. SAN GABRIEL. 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 175. SAN FERNANDO. 1883. Photo from the collection of
The Society of California Pioneers.



FIGURE 176. SAN BUENAVENTURA. 1883. Photo from the collection of
The Society of California Pioneers.



FIGURE 177. SANTA BARBARA. Photo from the collection of
The Society of California Pioneers.



FIGURE 178. SANTA BARBARA (REAR VIEW). 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 179. SANTA YNEZ. 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 180. LA PURISIMA CONCEPCION (OLD). 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 181. LA PURISIMA CONCEPCION. Photo from the collection of *The Society of California Pioneers*.



FIGURE 182. SAN LUIS OBISPO DE TOLOZO. 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 183. SAN MIGUEL. 1883. Photo from the collection of *The Society of California Pioneers*.



FIGURE 184. SAN ANTONIO DE PADUA. 1883. *Photo from the collection of The Society of California Pioneers.*



FIGURE 185. NTRA. SRA. DE LA SOLEDAD. 1883. *Photo from the collection of The Society of California Pioneers.*



FIGURE 186. SAN JUAN BAUTISTA. *Photo from the collection of The Society of California Pioneers.*



FIGURE 187. SAN CARLOS DE MONTEREY, OR CARMEL. 1883. Photo from the collection of The Huntington Library.



FIGURE 188. SAN CARLOS DE MONTEREY (IN 1834). 1883. Photo from the collection of The Society of California Pioneers.



FIGURE 189. SANTA CRUZ. 1883. Photo from the collection of The Society of California Pioneers.



FIGURE 190. SANTA CLARA. Photo from the collection of
The Society of California Pioneers.



FIGURE 191. SAN JOSE. 1883. Photo from the collection of
The Society of California Pioneers.

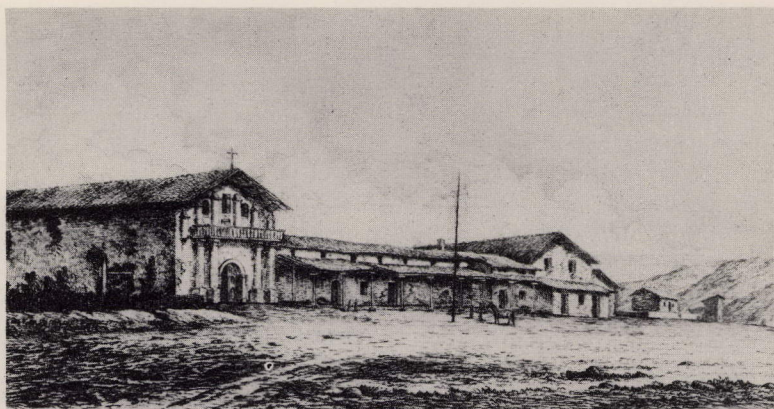


FIGURE 192. DOLORES. 1883. Photo from the collection of
The Society of California Pioneers.



FIGURE 193. SAN FRANCISCO DE SOLANO. 1883. *Photo from the collection of The Society of California Pioneers.*



FIGURE 194. PALA. (MISSION STATION ATTACHED TO SAN LUIS REY). 1883. *Photo from the collection of The Society of California Pioneers.*

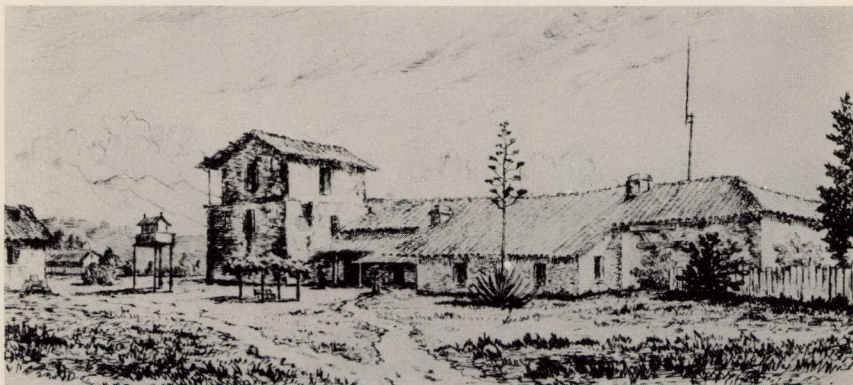


FIGURE 195. BLOCKHOUSE AT SANTA BARBARA, 1886. *Photo from the collection of The Huntington Library.*

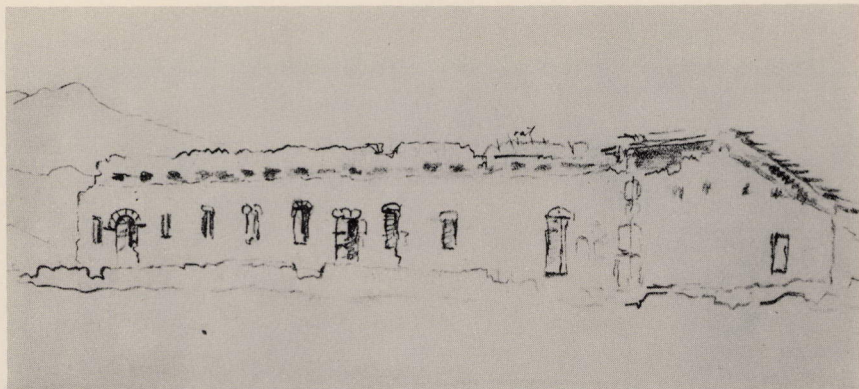


FIGURE 196. SANTA MARGARITA ASISTENCIA. Photo from the collection of The Huntington Library.



FIGURE 197. GENERAL VIEW OF THE RUINS OF MISSION SAN FERNANDO REY. Original sketch in the collection of Southwest Museum. Photo from the collection of The Huntington Library.



FIGURE 198. PALA MISSION, SAN DIEGO COUNTY, JULY 5, 1880. Original sketch in the collection of Southwest Museum. Photo from the collection of The Huntington Library.

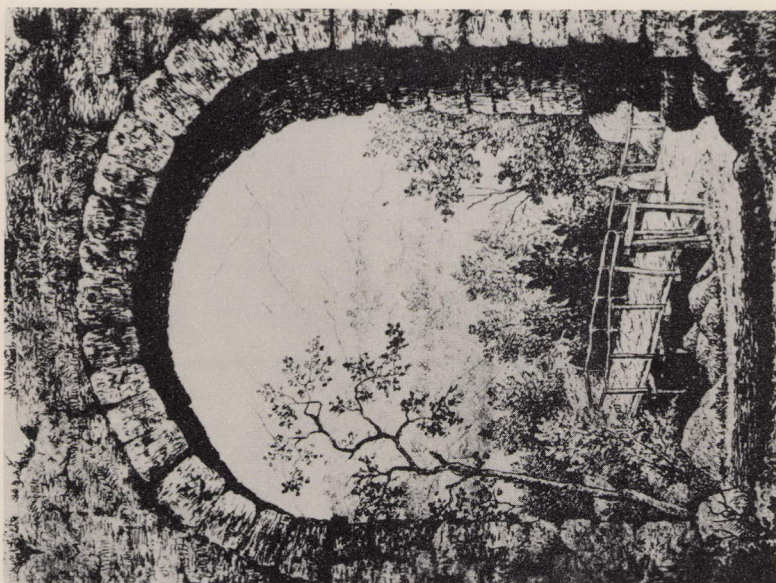


FIGURE 200. SANTA BARBARA MISSION (ARCH UNDER THE AQUEDUCT). 1880. Photo from the collection of The Huntington Library.

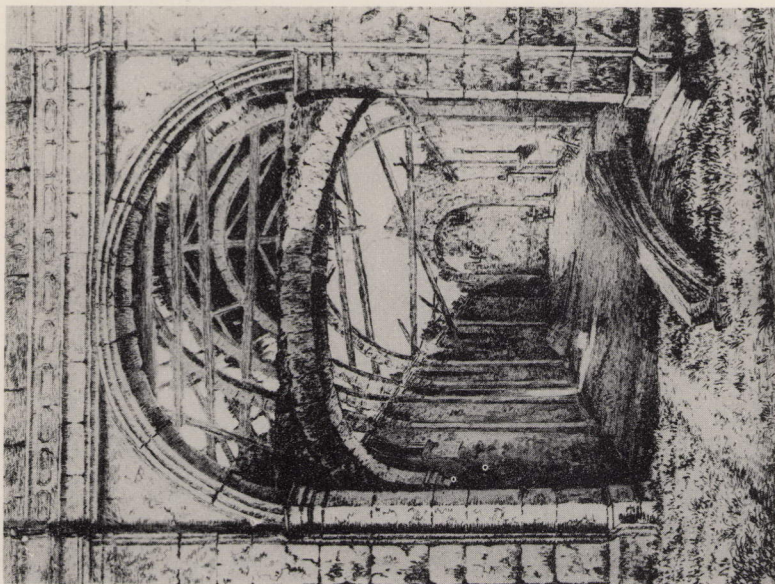


FIGURE 199. SAN CARLOS BORROMEO. (INTERIOR, 1888.) Photo from the collection of The Society of California Pioneers.

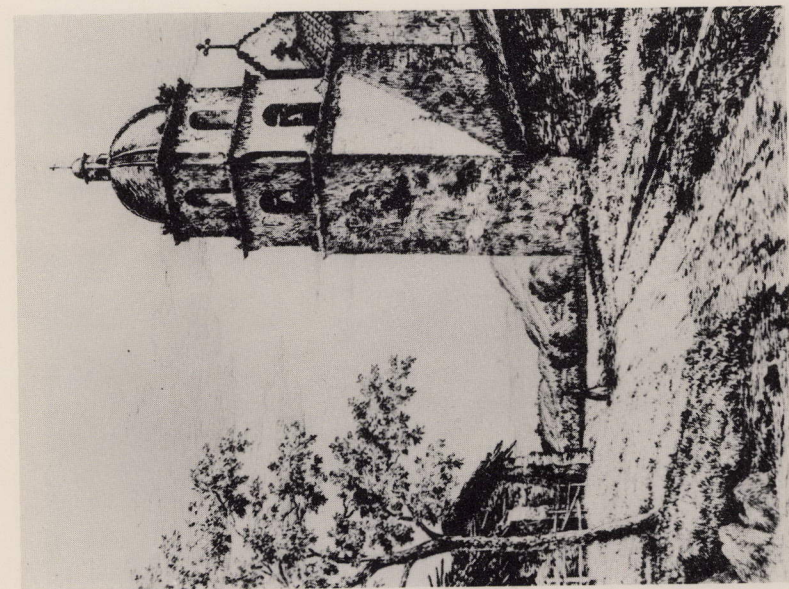


FIGURE 201. SANTA BARBARA MISSION, 1888. Photo from the collection of The Society of California Pioneers.

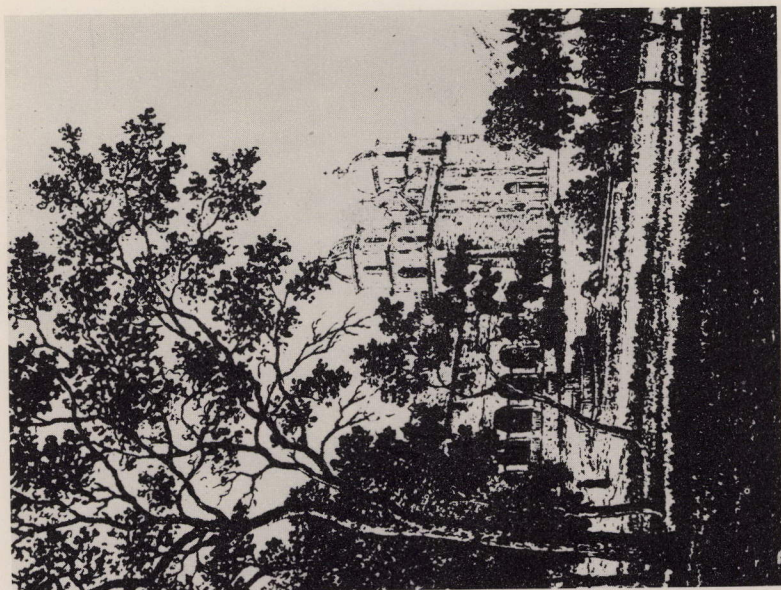


FIGURE 202. SANTA BARBARA MISSION, 1888. Photo from the collection of Southwest Museum, Los Angeles.

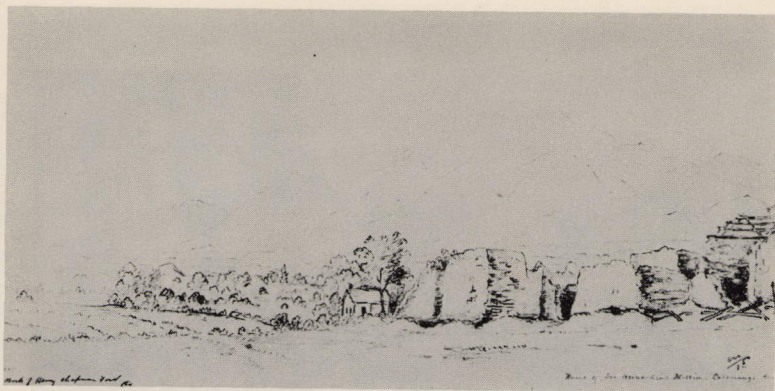


FIGURE 203. RUINS OF SAN BERNARDINO MISSION, CUCOMUNGA RANGE, 1880. Original sketch in the collection of Southwest Museum. Photo from the collection of the California Historical Society.



FIGURE 204. RUINS OF SAN BERNARDINO MISSION, 1881. Original sketch in the collection of Southwest Museum. Photo from the collection of the California Historical Society.



FIGURE 205. RUINS OF SAN BERNARDINO MISSION, JULY 8, 1880. Original sketch in the collection of Southwest Museum. Photo from the collection of the California Historical Society.



FIGURE 206. RUINS, SAN MARCOS MISSION, SANTA INEZ VALLEY, 1885. *Original sketch in the collection of Southwest Museum. Photo from the collection of the California Historical Society.*



FIGURE 207. SANTA BARBARA MISSION (INNER COURT). 1888. *Photo from the collection of Southwest Museum, Los Angeles.*

PAINTINGS BY ORIANA DAY

1882-83

Twenty-one oil paintings of the California missions (figs. 208 to 228) by Oriana Day are in the collection of the H. M. DeYoung Memorial Museum, Golden Gate Park, San Francisco, and are reproduced herein by permission of the Museum. Photographs are by Mary Rae Hill.

Figures 229 and 230, also from paintings by Mrs. Day, represent the plaza at Sonoma.

Oriana Day's mission paintings represent the buildings as she believed they originally existed, rather than in the state of decay or semi-destruction in which she observed many of them during the early eighties. Her pictures were based on her own observations, on older sketches and paintings, and on what she could glean from persons who had seen the originals in their prime.

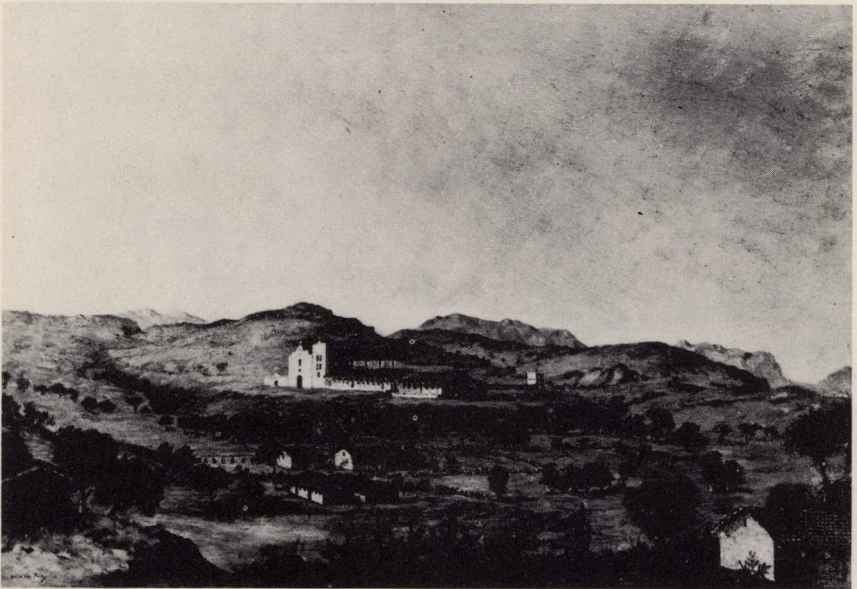


FIGURE 208. SAN DIEGO DE ALCALÁ, 1769.



FIGURE 209. SAN CARLOS BORROMÉO, 1770.



FIGURE 210. SAN ANTONIO DE PADUA, 1771.



FIGURE 211. SAN GABRIEL ARCÁNGEL, 1771.



FIGURE 212. SAN LUIS OBISPO DE TOLOSA, 1772.



FIGURE 213. SAN FRANCISCO DE ASIS, 1776.



FIGURE 214. SAN JUAN CAPISTRANO, 1776.



FIGURE 215. SANTA CLARA, 1777.



FIGURE 216. SAN BUENAVENTURA, 1782.

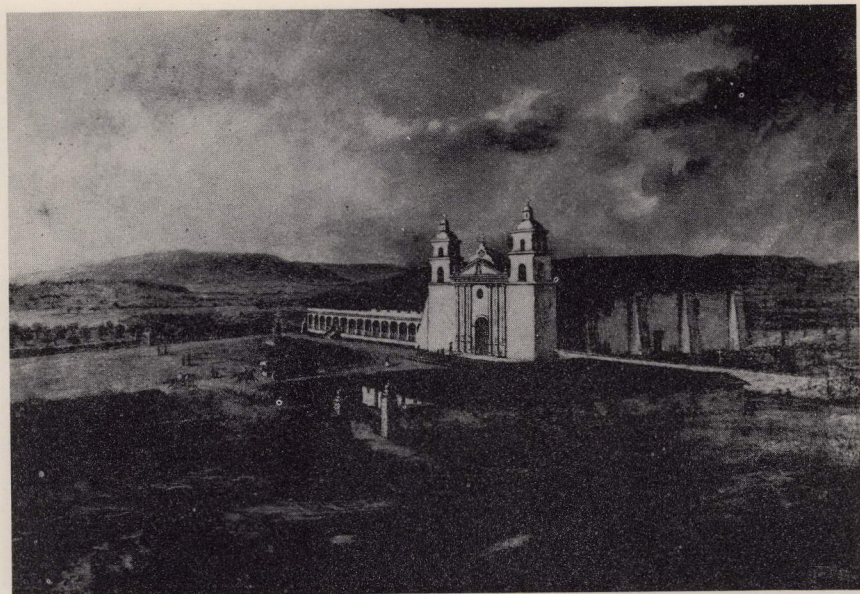


FIGURE 217. SANTA BARBARA, 1786.



FIGURE 218. LA PURISIMA CONCEPCION, 1787. (VIEJA)



FIGURE 219. SANTA CRUZ, 1781.



FIGURE 220. NUESTRA SEÑORA DE LA SOLEDAD, 1791.



FIGURE 221. \ SAN JOSE, 1797.



FIGURE 222. SAN JUAN BAUTISTA, 1797.



FIGURE 223. SAN MIGUEL ARCÁNGEL, 1797.



FIGURE 224. SAN FERNANDO REY DE ESPANA, 1797.

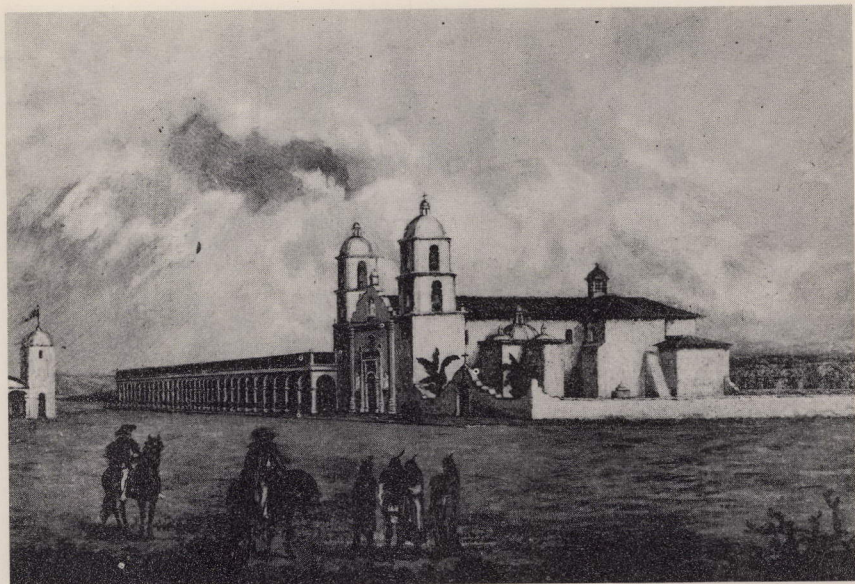


FIGURE 225. SAN LUIS REY DE FRANCIA, 1798.



FIGURE 226. SANTA YNEZ, 1804.



FIGURE 227. SAN RAFAEL ARCÁNGEL, 1817.



FIGURE 228. SAN FRANCISCO SOLANO, 1823.

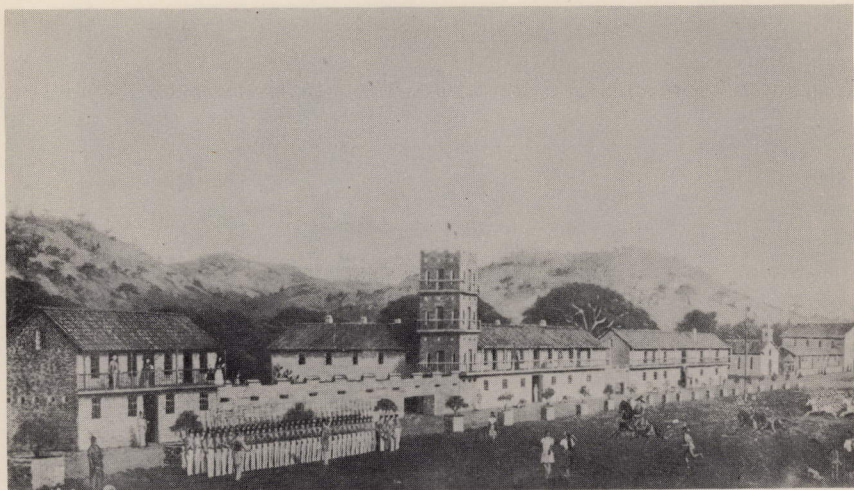


FIGURE 229. The Plaza at Sonoma. Painting in the collection at the Vallejo home, Sonoma. Photo from the collection of The Huntington Library, San Marino.



FIGURE 230. The Plaza at Sonoma, from a painting once in the collection of the Native Sons' Hall Association, San Francisco. Photo from the collection of The Society of California Pioneers.



FIGURE 231. STONE AND TILE, AT DOOR TO CHAPEL, MISSION SAN JUAN CAPISTRANO, 1905. *Photo from the collection of The Huntington Library.*

IN TRANSLATION
1798-1951

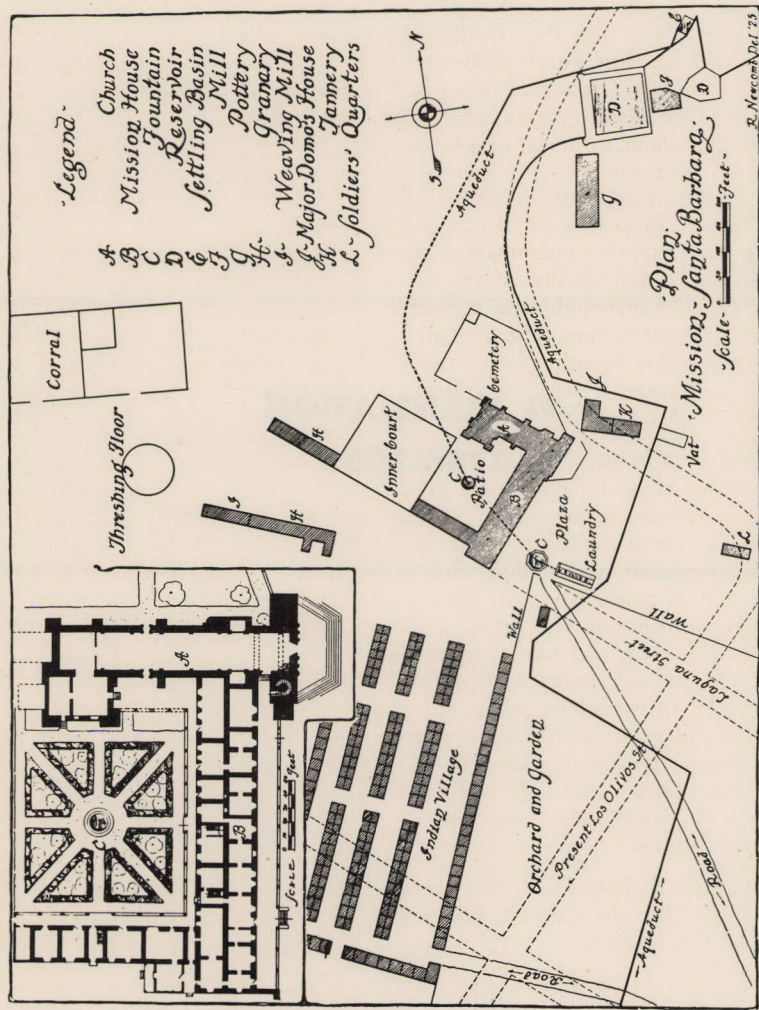


FIGURE 232. PLAN OF MISSION SANTA BARBARA. Reprinted from The Old Mission Churches and Historic Houses of California by Rexford Newcomb, J. B. Lippincott Co., 1925, by permission of Mr. Newcomb, copyright owner. Photo by Mary Rae Hill.

THE FRANCISCAN FATHERS

Translation by Geraldine E. Martino

Report on the spiritual and temporal affairs of the Mission of the Virgin and Martyr Santa Barbara, situated on the channel of the same name; from the 4th day of December of the year 1786, which was the day of dedication, to the 31st day of December 1787.

The Year 1787. On the 4th day of December of the year 1786, on which our Holy Mother the Church celebrates the feast of the Virgin and Martyr Santa Barbara, the Holy Cross was raised on the site of founding, and the mission dedicated to that Saint, Virgin, and Martyr; the site is that called El Pedragoso, and is distant about a quarter of a league from the presidio named for the aforementioned Saint. On the 15th day of the same month and year, the first Mass was celebrated in a shelter roofed with branches. The Reverend Father President Father Fermin Francisco de Lasuen gave the sermon, assisted by the Governor and a few soldiers who accompanied him. Because of the severity of the winter in this country, and because of the abundant and continuous rains, it was not possible to build, although some timber was cut, to take advantage of favorable weather for construction. The first ministers appointed by the Reverend Father President for this founding were the Reverend Fathers Antonio Paterna and Christoval Oramas, who have maintained this mission, and who make this report which follows. . . .

Building. A house of poles, 16 varas * long and 5 wide, divided into two rooms, plastered, and roofed with grass, has been built as living quarters for the Fathers. Next to this, a room 6 varas long and 5 wide, with a grass-covered mud roof, serves as a kitchen. Item: a granary 21 varas long and 5 wide, built of sticks, plastered, and roofed with grass. Item: a house 12 varas long and 5 wide, built of poles, plastered, and roofed with grass; this serves to shelter the unmarried women and girls. Item: a chapel 14 varas long and 5 wide, built of poles and plastered, and roofed with grass. Item: a room 6 varas long and 5 wide was built, and roofed with mud and grass; this is used for the servants. Item: a room 10 varas long and 5 wide, built of poles and plastered, and roofed with mud and grass, serves as a carpenter shop, and to shelter the unmarried men and boys. Item: four rooms, one 8 varas long, two 6 varas long, the other 5 varas long; all 6 varas wide, with walls of adobe 1 vara thick. We have not been able to cover these from the rains. . . . Fr. Antonio Paterna—Fr. Christoval Oramas.

Jan. 1, 1788 to June 30, 1788. Nothing has been built but a corral of upright timbers for the animals, because of the lack of food to maintain the Indians at the Mission. . . . Fr. Antonio Paterna—Fr. Christoval Oramas.

* *League and Vara:* In the Spanish and Mexican days a "league" of land meant a square league. A league was 5,000 varas long, and the square league was 5,000 varas square. The vara was similar to our yard and is usually translated by that term, but they are not of the same length. Theoretically the vara measure on the cathedral in Burgos was the standard but in time its length in the Americas became different; in the late Mexican period the vara in California differed from the vara in Texas. In California the vara before 1846 was a very small fraction under 33 inches. The Americans in the forties accepted it as 33 inches. J. N. Bowman and G. W. Hendry, in *Spanish and Mexican Houses in the Nine Bay Counties*, ms., Bancroft Library, California State Library, 1942.



FIGURE 233. ". . . . A SHELTER ROOFED WITH BRANCHES" Interior of Santa Isabel, asistencia to Mission San Diego de Alcalá, as it appeared in 1902. Photo from the collection of The Huntington Library.

July 1, 1788 to Dec. 31, 1788. The four rooms mentioned in the earlier report have been roofed and covered with tile, and doors have been made for them. Item: the house for the unmarried women and girls has been covered with tile. In the same manner, the house for the single men, which is at present used as a granary, has also been roofed with tile. Item: a house 12 varas long and 5 wide has been built of poles and roofed with tile. Item: a room of adobe, roofed with tile, serves as a kitchen. The church has been enlarged a bit, and the addition is half adobe, and roofed with tile. . . . Fr. Antonio Paterna—Fr. Christoval Oramas.

Jan. 1, 1789 to Dec. 31, 1789. First of all: a church 30 varas long and 6 wide has been built of adobe, roofed with tile, and provided with a door. Item: a granary 31 varas long and 7 wide, of adobe and roofed with tile. Item: close to this, a room 12 varas long and 7 wide, of adobe and roofed with tile; this is for the unmarried women and girls. Item: two rooms 5 varas long and 4½ wide, of adobe and roofed with tile, serve one as a chicken house, the other as a jail. Item: a room 9 varas long and 5 wide, built of poles and roofed with tile; it is for storing the saddles and harnesses and other equipment for the muleteers. . . . The above constitutes &c. . . . Fr. Antonio Paterna.

Jan. 1, 1790 to Dec. 31, 1790. First of all: two dwellings were built for the Padres Ministros; they are 10 varas long and 6 wide, and each is divided into a reception room 6 varas long and a bedroom. These four rooms, which have doors and windows, are roofed with tile. Item: a corridor 60 varas long and 6 wide, divided into eight rooms—refectory, kitchen, privy-house, tool shed; door; wood shed, jail, mill, and house for the women; the whole is roofed with tile, and has doors and windows. Item: a room 12 varas long and 7 wide, roofed with tile, for a granary. Item: a pozolera * covered with tile. All of these rooms

* The place where the *pozole* (a thick soup of meal, vegetable, and meat) was cooked. Fr. Zephyrin Engelhardt, in *Santa Barbara Mission*, 1923.



FIGURE 234. "FIRST OF ALL: A CHURCH HAS BEEN BUILT OF ADOBE" Reprinted from "Santa Barbara Mission", by Fr. Zephyrin Engelhardt, O.F.M., by courtesy of Fr. Maynard Geiger, Archivist, Old Mission, Santa Barbara.

are of adobe and plastered with mortar. . . . The above constitute the things built at Mission Santa Barbara to the 31st day of December of 1790. . . . Fr. Antonio Paterna—Fr. Jose de Miguel.

Jan. 1, 1791 to Dec. 31, 1791. Four rooms have been built. One, 10 varas long and 6 wide, serves as a guard house for the soldiers. The other three serve as storerooms for farm implements and carpenter tools. All are made of adobe and roofed with tile. . . . Mission of Santa Barbara, 31st of December of the year 1791. . . . Fr. Antonio Paterna—Fr. Jose de Miguel.

Jan. 1, 1792 to Dec. 31, 1792. Two corrals have been constructed, one for cattle, the other for sheep, both of stone. The first is 90 varas long and 75 wide; the second is 75 varas wide and 50 long. . . . Mission of Santa Barbara, 31st of December of 1792. . . . Fr. Antonio Paterna—Fr. Jose de Miguel.

Dec. 31, 1793. A church of adobe 45 varas long and $9\frac{1}{4}$ wide, and a sacristy of adobe $9\frac{1}{4}$ varas long and 5 wide have been built. Both have been roofed with tile and plastered with mortar inside and out. The portico at the front of the church is of brick, and is roofed with brick and tile. . . . Mission of Santa Barbara, 31st of December of 1793. . . . Fr. Estevan Tapis—Fr. Jose de Miguel.

Dec. 31, 1794. A granary 26 varas long and 7 wide was built of adobe; a weaving room, 18 varas long and 7 wide, also of adobe, and with a patio of adobe 10 varas wide and 18 long, was also erected. The foundation of these buildings is of stone and mortar. The whole is roofed with tile, and the crevices in the walls are for the most part filled in with small stones and mortar, and then plastered with mortar on the outside. Item: an adobe wall was built around the cemetery, which was 45 varas long and 16 wide; the top of the wall was cov-

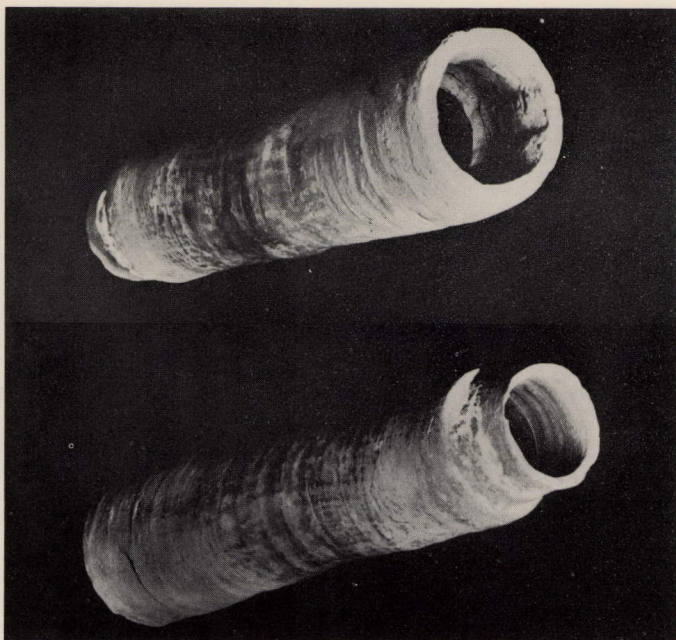


FIGURE 235. CLAY PIPE FROM MISSION SANTA BARBARA. This pipe was made about 1790, and was in use until the late nineteen-thirties. Pipe lines were joined by cement made of finely ground mussel and clam shells, or, less commonly, with tar from seeps not far from the mission. Photo by Rod T. Antrim, courtesy of Old Mission, Santa Barbara, and Pacific Coast Clay Products Institute.

ered with tile. Item: a corral of adobes covered with tile was erected for the sheep; it is 62 varas long and 62 varas wide, and 3 varas high. . . . Mission of Santa Barbara, 31st of December of 1794. . . . Fr. Estevan Tapis—Fr. Jose de Miguel.

Dec. 31, 1795. The roof beams and supports of poplar and alder, which had rotted, were replaced with beams and supports of pine on $2\frac{1}{2}$ sides of the tile-covered mission square. To the living quarters of the missionary Fathers four rooms were added, which are 25 varas long and 3 wide, with three partition walls to divide them. Two serve as bedrooms, and the other two as study rooms. These works are for the greater part of mortar, stone, and brick. . . . Mission of Santa Barbara, 31st of December of 1795. . . . Fr. Estevan Tapis—Fr. Jose de Miguel.

Dec. 31, 1796. In six rooms of the mission the roof beams and supports of poplar and alder were removed, because they were decayed and therefore dangerous; and in their place beams and supports of pine were substituted. Now all the buildings of the mission have pine wood throughout. A corridor 3 varas wide and 45 long, with pillars of brick and mortar and a tile roof, was made to protect the wall facing the presidio against the rain. Another corridor 3 varas wide and 18 long, with pillars of adobe and a tile roof, was built in the patio where the weaving is done. Two rooms of adobe, 3 varas wide and 6 long, were also



FIGURE 236. "AN ADOBE WALL WAS BUILT COV-
ERED WITH TILE" Tile-covered adobe wall at Mission San
Antonio de Padua, as it appeared in 1906. Photo by G. W. James,
from the collection of The Huntington Library.

built at the two ends of the corridor. . . . Mission of Santa Barbara, 31st of December of 1796. . . . Fr. Estevan Tapis—Fr. Jose de Miguel.

Dec. 31, 1797. Three granaries, of 25 varas each, have been built; a room of 6 varas, which is the entrance to two of the granaries, a room of 10 varas for the calves, one of 9 varas for the smithy, and another of the same size for a chicken house, also have been constructed. All these rooms have their doors and locks. They are 6 varas wide, of adobe, plastered on the outside with mortar, and roofed with tile; and though they form a separate square, it is entered through the old part of the mission. . . . Mission of Santa Barbara, 31st of December 1797. . . . Fr. Estevan Tapis—Fr. Jose de Miguel.

Dec. 31, 1798. Nineteen rooms of adobe have been built for as many families of neophytes. Each one is 4 varas wide and $6\frac{1}{2}$ long, and each one has its door and window that can be closed. All are plastered on the outside with mortar, and on the inside they are whitened with milk of lime; they are roofed with tile. A wall 3 varas high, topped with tile, encloses an area 2100 varas in circumference, which contains a kitchen garden, vineyard, and fruit trees. . . . Mission of Santa Barbara, 31st of December, 1798. . . . Fr. Estevan Tapis—Fr. Juan Cortes.

Dec. 31, 1799. A granary of adobe was built, which is 45 varas long and $6\frac{1}{2}$ wide, roofed with tile, and plastered both inside and out with mortar. . . . Mission of Santa Barbara, 31st of December of 1799. . . . Fr. Estevan Tapis—Fr. Juan Cortes.

*Dec. 31, 1800.** Thirty-one houses of adobe have been built as habitations for as many families of neophytes; these are similar in every respect to the twenty

* In October of 1800, Fathers Tapis and Cortes of Mission Santa Barbara wrote to Fr. Presidente Fermin Francisco de Lasuen, defending their management of the mission, in reply to the criticism voiced by Comandante Felipe Goycochea, who had expressed his opinion of mission affairs in answers to fifteen questions put to him by Governor Borica. The Fathers set forth their defense in a *Reply of the Ministers of Santa Barbara to the Answers that Comandante*

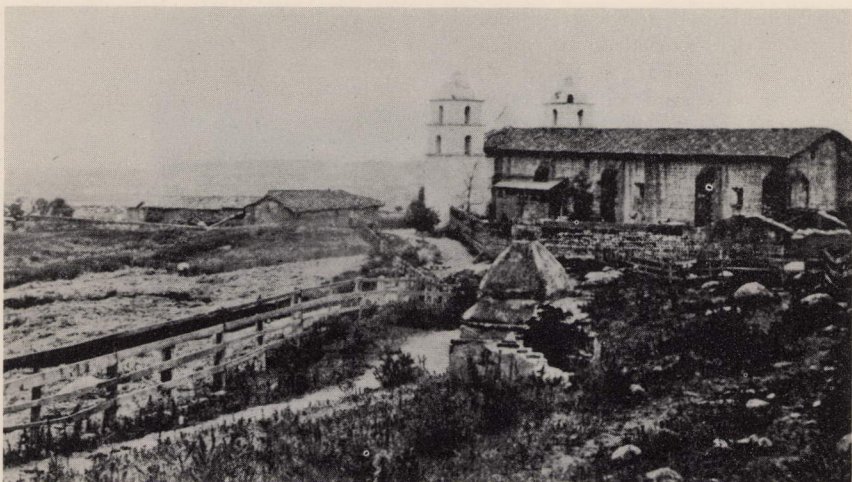


FIGURE 237. SANTA BARBARA MISSION ABOUT 1875. *Photo from the collection of The Huntington Library.*



FIGURE 238. ". . . . A HOUSE WAS BUILT FOR THE MAYORDOMO" The Mayordomo's house and the tanning vats are in the central foreground of this photo, which was taken in 1875. See also J and K, fig. 232. *Photo by Watkins (new series), from the collection of The Huntington Library.*

already built. All of them are roofed with tile, plastered on the outside with mortar, and whitened on the inside with milk of lime. They have their doors and windows, and are so placed as to form a street. In addition, corridors with pillars of brick and mortar have been built along three walls of the mission

Goycochea Gave to the Fifteen Questions Regarding Abuses by the Aforesaid Missionaries, and in their comments on Goycochea's answer to question 9 presented the following data on construction work done by the neophytes:

"Question 9: How many hours are the Indians required to work? Are the pregnant Indian women, nursing mothers, and old women and children obliged to work?

" So that it may be understood what the Comandante considers such hard work, we will explain clearly and distinctly the duties imposed. The women are given only the task of grinding. Each one grinds two *almudes* of wheat per day for *atole*. When it is for bread, eight, and sometimes nine women grind seven *almudes* of soaked wheat. The men are given the task of making adobes: 360 adobes two-thirds (of a vara) long and 1 (vara) wide; nine Indians work together, making 40 adobes each. The earth is soft, and the water nearby. Those who work at this task never work after eleven, never work on Saturday, and oftentimes do not work on Friday, because they complete their assigned task during the early part of the week. Those who make tiles also have their duties assigned. Sixteen young men are selected, and sometimes as many more middle-aged men, or recruits from the *rancheria*; all these people, with two women who carry them sand and cow dung, make 500 tiles a day. They have the troughs of clay nearby, and these are always full. These Indians finish working before eleven; nevertheless, they always speed up their work, so that they have Saturday free to walk about or rest. . . . Now we will compare the tasks of these workers in adobe and tile with those of the Presidio. In 1795 the Commandante of the Presidio, Don Felipe Goycochea, asked for ten Indians to make tile. We selected ten of the most skillful and diligent for the work, most of whom are still living. After laboring four days at the Presidio, on Thursday they complained that they could not endure the work, and that their hands and arms were very sore. They were asked how much work they did per day. They replied, 500 tiles; which meant that they had to dig the clay and throw it in the troughs; that they had to add cow dung, and water from a well 15 varas deep, or from a lake some distance away; that they had to carry the lake water from the beach, an eighth of a league from where they made the tile; that they had to mold the clay; and finally, that they alone, between morning and night, had to produce 500 well-made tiles, for the soldier Olivas stood over them to see that the work was done. Such arduous work seemed incredible, and it was feared that this was some falsehood concocted by the Indians. Nevertheless, they were urged to continue, and on Friday they repeated their complaint with more insistence, adding that on this day they had to make 525 tiles. At that time they were told to have patience the following day, and that we would see about relieving them of such hard work. That same Saturday the Comandante came to the mission, and was informed of the Indians' complaints; he replied that this was the amount of work formerly done by the soldiers. We then proposed that ten chosen soldiers be placed with the same ten Indians from morning to night, to see who made the most tiles; he would not agree to this, but said that the Indians need not come any more, for there was now sufficient tile. As for the daily task of the Indian who makes adobes: Señor Arrillaga, then provisional governor of this peninsula, declared in 1793 that the number should be set at 50 per day. Last year Don Jose Maria Ortega, then a Sargeant, asked for peons from the mission to make adobes and to build a house outside the presidio. These were granted, with the stipulation that the daily task should be 50 adobes per individual and no more, in accordance with the declaration of the aforementioned Señor Arrillaga. He agreed to the condition, but contrived to have made a mould three-quarters of a vara long and half a vara wide, and also higher in proportion than the normal ones, which have been two-thirds long and one wide. Water had to be drawn from a well more than 12 varas deep. From the two tasks that we have just described, any impartial person may judge which labor deserves the most compassion—that borne by the Indians at the mission, or that borne by the Indians at the presidio. . . . All of the women who are considered useful help carry adobes, when the cart assigned for the purpose at the start of construction work is not sufficient; however, the cart is often all that is needed, for the adobes are always made near the buildings. These same women help carry the brick and tile, and very infrequently stones—but only small ones—for leveling the foundations. Carrying the rest of the building materials is the work of the drovers with their oxen and the muleteers with their mules. Of the little children over nine years of age, some comb the wool in the looms and hand the shuttle and quill to the weavers; others look after the tile and brick during the day, so the animals do not step on it; still others frighten away the birds; and the rest amuse themselves with their childish games."



FIGURE 239. TILE ROOF ON BUILDING AT MISSION SAN ANTONIO DE PADUA, AS IT APPEARED IN JUNE 1902. Photo from the collection of the California Historical Society. Newcomb, in *The Old Mission Churches and Historic Houses of California*, describes the making of tile as follows: "These tiles were almost semicircular in cross-section, about 22" long, and tapered from a diameter of 12" at the large end to a diameter of 8" at the small end. The padres followed the primitive custom of kneading or working the clay in pits under the hoofs of animals, then giving it time to ferment properly. The tiles were fashioned by making a pat of clay the correct thickness upon a flat board and then turning it over a half-round tapering 'mould' of wood which was well sanded to prevent the clay from adhering. After the cake had been pressed around the 'mould' it was trimmed along the edges, dried in the sun, and finally baked or fired in small kilns. Naturally the quality of the mission tiles varied with the clays of the different localities and with the processes of manufacture. Some specimens are very soft and irregular, while others appear as fine examples of craftsmanship."

square; they are roofed with tile and paved with brick. . . . Mission of Santa Barbara, 31st of December of 1800. . . . Fr. Estevan Tapis—Fr. Juan Cortés.

1801. Thirty-one houses of adobe have been built as dwellings for as many families of neophytes; these are similar in all respects to the fifty-one built in the 2 years preceding. In addition, a house 21 varas long and 6 wide was constructed, and its corridor; it is divided into a bedroom, reception room, kitchen, and chicken house, roofed with tile, and plastered with mortar. . . . Mission of Santa Barbara, 31st of December 1801. . . . Fr. Estevan Tapis—Fr. Juan Cortes.

1802. Thirty-one houses of adobe have been built as habitations for as many families of neophytes; these are in every respect similar to the eighty-two built in the preceding 3 years. They are surrounded on three sides by a mud wall 3 varas high, within which is sufficient space for the houses which are yet to be built. A mud-wall and adobe room 20 varas long and 6 wide was also built; and 5 troughs of brick and mortar for tanning hides. Next to this, a house 18 varas long and 6 wide, complete with corridor, was built for the Mayordomo; it is divided into a kitchen, reception room, and bedroom. Finally, five mud-wall and adobe rooms were constructed, to meet the various needs of the mission; these were in all 40 varas long and 6 wide. . . . Mission of Santa Barbara, 31st of December, 1802. . . . Fr. Estevan Tapis—Fr. Juan Cortes.

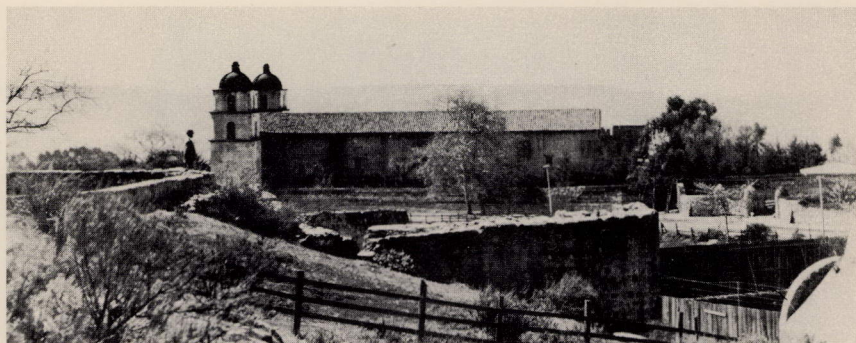


FIGURE 240. "A RESERVOIR FOR STORING WATER WAS CONSTRUCTED, ALL OF STONE AND MORTAR" This photograph, taken March 12, 1898, shows part of the Santa Barbara water system. In the extreme lower right-hand corner is the settling basin shown also in fig. 241; at the extreme left is the upper reservoir, and just below it the mill shown in fig. 242; the lower reservoir is surrounded by the wooden fence. See *D*, *E*, and *F* on fig. 232. Newcomb, in *The Old Mission Churches and Historic Houses of California*, describes the water-system as follows: "The water-supply was obtained by the damming of Pedragosa Creek some two miles above the mission [see fig. 245]. From the dam the water was conducted, by means of a stone aqueduct, to a settling-basin northeast of the mission church. This aqueduct was built in such a way as to follow the contour of the hills and canyons, and so well constructed that, after a hundred years, it remains, where not destroyed by man, in excellent condition. From the settling-basin, or filter, the water was led into the great stone reservoir, 110 feet square and seven feet deep, which was completed in 1806. . . . Upon the hill above the reservoir . . . was subsequently built a second small reservoir, which was also supplied from the dam. Between these two reservoirs was built the water-power grist mill where Padre Ripoll ground his grain. The upper reservoir was provided with wooden sluice-gates by means of which the water to turn the millwheel could be controlled. . . . From the settling-basin, constructed to purify the domestic supply, an aqueduct formerly conducted the water to be used for household purposes to the rear of the mission. From here it was distributed to the fountains. This aqueduct consisted of a water-way four inches in diameter carried atop a heavy stone wall, which, crossing the road that leads to the bridge, was pierced at this point by a pretty arch that remained in place until about 1880." Photo from the collection of Southwest Museum, Los Angeles.



FIGURE 241. THE SETTLING-BASIN, OR WATER-FILTER HOUSE AS IT APPEARED IN 1898. Photo from the collection of the California Historical Society.

1803. Forty-eight houses of adobe have been built as habitations for as many families of neophytes; these were similar in all ways to the 113 built in the preceding years. In addition, a church 22 varas long and 9 wide, including the walls, was constructed on a rancheria 2 leagues distant from the mission; it is called San Miguel. . . . Mission of Santa Barbara, 31st of December of 1803. . . . Fr. Estevan Tapis—Fr. Juan Cortès.

1804. Thirty-seven houses of adobe have been built to house as many families of neophytes; these are similar in every respect to the 161 built in the preceding years; also, a large partially covered patio has been made, which the neophytes use for various purposes. . . . Mission of Santa Barbara, December 31 of the year of the Lord 1804. . . . Fr. Juan Cortes—Fr. Marcos Amestoy.

1805. Two large rooms were built for granaries and one of the same size for wood; 36 houses were built for the Indians, with doors and windows, and similar in all respects to those of the previous years, in all numbering 234. . . . Mission of Santa Barbara, December 31 of 1805. . . . Fr. Marcos Amestoy—Fr. Marcos Antonio de Vitoria.

1806. A reservoir for storing water was constructed, all of stone and mortar; it is 40 varas square and $2\frac{1}{2}$ high. . . . Mission of Santa Barbara, December 31 of 1806. . . . Fr. Marcos Amestoy—Fr. Jose Antonio Urresti.

1807. Eighteen houses were built on the rancheria, similar in all respects to those previously constructed, in all totaling 252. Four houses were built with their guard rooms; also a dam of rough stone and mortar. . . . Mission of Santa Barbara, December 31 of 1807. . . . Fr. Jose Antonio Urresti—Fr. Marcos Amestoy.

1808. A fountain and its wash trough have been constructed for the benefit of humanity, and a house for pottery making. The unfinished work will be



FIGURE 242. THE MILL, AS IT APPEARED IN 1898. Photo from the collection of the California Historical Society.

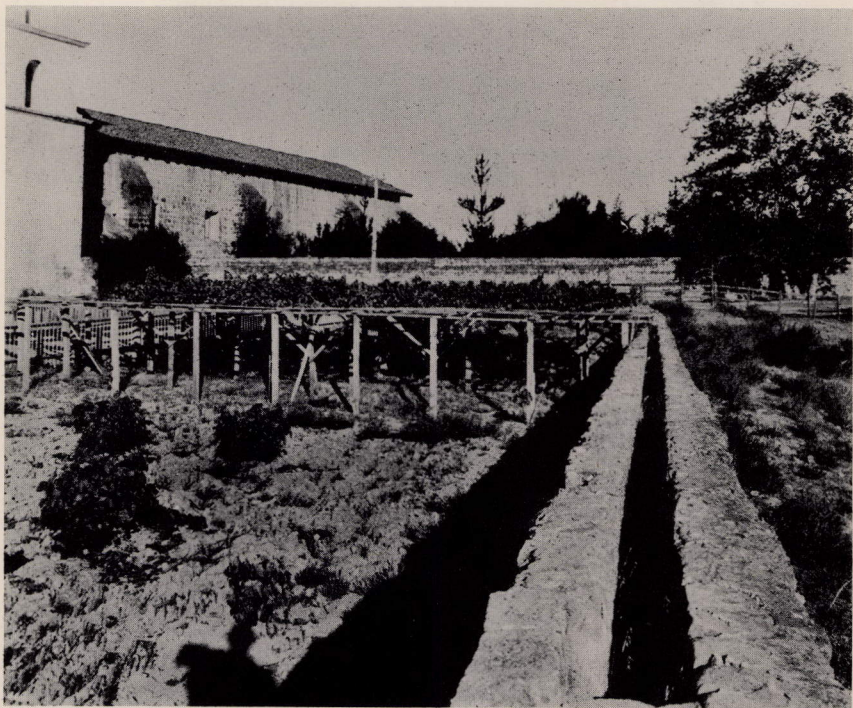


FIGURE 243. PART OF THE STONE AQUEDUCT, AS IT APPEARED IN 1898. Photo from the collection of the California Historical Society.



FIGURE 244. "A FOUNTAIN AND ITS WASH TROUGH HAVE BEEN CONSTRUCTED FOR THE BENEFIT OF HUMANITY" Photo by Helen S. Giffen, from the collection of The Society of California Pioneers.



FIGURE 245. ". . . . A DAM OF ROUGH STONE AND MORTAR" The Santa Barbara Mission dam. Photo by courtesy of Anderson Photo Service, Santa Barbara.



FIGURE 246. SANTA BARBARA MISSION. ". . . . IT IS OF HEWN STONE AND MORTAR, WITH VERY STRONG WALLS, HEAVY BUTTRESSES, AND TOWER TWO STORIES HIGH" Photo from the collection of Southwest Museum, Los Angeles.

reported next year. . . . Mission of Santa Barbara, December 31 of 1808. . . . Fr. Marcos Amestoy—Fr. Luis Gil de Taboada.

1809. That part of the habitation of the Padres Ministros that looks toward the sea has been added to, with a wall of lime and stone, and a flat roof made to be walked on. . . . Mission of Santa Barbara, December 31 of 1809. . . . Fr. Luis Gil de Taboada—Fr. Marcos Amestoy.

1810. That which was reported last year is being continued. . . . Mission of Santa Barbara December 31 of 1810. . . . Fr. N[omen]—Fr. N[omen].

1811. The habitation of the Padres Ministros, mentioned in 1809, has been completed, with a corridor of stone arches. The frontispiece of the Holy Church has been started, and will be reported on when it is completed. . . . Mission of Santa Barbara, December 31 of 1811. . . . Fr. Luis Gil and Fr. Marcos Amestoy.

1812. In the terrible earthquakes of December 21st and the days following, the mission was considerably damaged, necessitating a careful inspection and somewhat extensive repairs. The Holy Church, particularly, should be rebuilt, when permission is obtained from the government; for there would be little difference in the amount of labor required to repair it, and the amount of labor required to rebuild it; and, comparing the small satisfaction that repaired walls would give us with the security provided by new, thick ones of lime and stone, on a solid foundation, reasons for the latter outweigh the former. . . . Mission of Santa Barbara, December 31 of 1812. . . . Fr. Luis Gil and Fr. Marcos Amestoy.

1813. All is the same as in previous years. . . . Fr. Ramon Olbès—Fr. Marcos Amestoy.



FIGURE 247. "THE STATUE OF THE PATRONESS, SANTA BARBARA, WAS PLACED IN A NICHE IN THE FRONTISPIECE, WHICH APPEARS TO BE SUPPORTED BY SIX COLUMNS; AND IN THE CORNERS OF THE TRIANGLE WERE PLACED THE THREE VIRTUES, FAITH, HOPE, AND CHARITY" In 1898, when this photograph was taken, the figure at the apex of the triangle had already been destroyed; the others were broken by the earthquake of 1925. Photo from the collection of The Huntington Library.

1814. Everything on the rancheria destroyed by quakes and rains has been rebuilt. . . . Mission of Santa Barbara, December 31 of 1814. . . . Fr. Luis Gil de Taboada—Fr. Ramon Olbès.

1815. Things remain the same as in previous years; what has deteriorated from use and the passage of time are being repaired and replaced. Mission of Santa Barbara, 31st of December of 1815. . . . Fr. Ramon Olbès—Fr. Antonio Ripoll.

1816. The same things remain as in previous years, and those things that have been consumed by use and by time are being repaired and replaced. . . . Mission of Santa Barbara, December 31 of 1816. . . . Fr. Francisco Suñer—Fr. Antonio Ripoll.

1817. The same things remain from previous years. Twenty harnesses have been added, and various tools for carpentry; and the things that use and time have consumed are being replaced and repaired. A wing of adobe has been built,

which contains a granary, a room for the calves, and a room for tools and implements of the field, which have for some years been deteriorating with age; also, the flat roof on half the principal house was remodeled, and the decayed wood replaced. . . . Fr. Francisco Suñer—Fr. Antonio Ripoll.

1818. The same things remain as in previous years, and those things that have been consumed by use and time are being repaired and replaced. . . . Mission of Santa Barbara, 31st of December of 1818. . . . Fr. Francisco Suñer—Fr. Antonio Ripoll.

1819. The same things remain as in previous years, and those things that have been consumed by use and time are being repaired and replaced. . . . Mission of Santa Barbara, 31st of December of 1819. . . . Fr. Francisco Suñer—Fr. Antonio Ripoll.

1820. *Church and Sacristy.* The present church of this mission, begun in 1815, was finished this year, and its benediction was celebrated the 10th of September this same year. It is of hewn stone and mortar, with very strong walls, heavy buttresses, and tower two stories high, holding six bells, three of them hand bells. It has a plastered ceiling with paintings, and marble columns and altar tables in the Roman style, of which there are three, including the main altar; and in one of these is a suitable pulpit. The statue of the patroness, Santa Barbara, was placed in a niche in the frontispiece, which appears to be supported by six columns; and in the corners of the triangle were placed the three virtues, Faith, Hope, and Charity; these four figures are of carved stone, and painted in oil. The floor of the church is of burnished bitumen, which makes it very neatly finished. With this, and the various embellishments that have been placed thus in the church, as well as in the sacristy, it is very agreeable to the sight, strong, and elegant. . . .

Building. The same things remain as in previous years, and those things that have been consumed by use and time are being repaired and replaced. . . . Mission of Santa Barbara, 31st of December of 1820. . . . Fr. Francisco Suñer—Fr. Antonio Ripoll.



FIGURE 248. CARMEL MISSION. Photo from the collection of the California State Library.

. On the 7th the fog was still thicker than on the day preceding; it cleared up, however, towards noon and we saw the tops of the mountains to the eastward at a very considerable distance. As our course was to the southward, it is evident, that, from the 42d degree, the coast begins to run away to the eastward. Our latitude observed at noon, was $40^{\circ} 48' 30''$ north; our longitude, according to the time-keeper, was $126^{\circ} 59' 45''$ west. I continued my course to near the land, from which, at night-fall, I was only four leagues distant. We there perceived a volcano on the top of a mountain, which bore east of us; its flame was very lively, but a thick fog soon deprived us of this sight; it became necessary to gain an offing. Being apprehensive, that, by following a course parallel to the coast, I might fall in with some rock or island at no great distance from the continent, I tacked, and stood off shore. The fog was very thick.

. At three o'clock in the afternoon [September 14, 1786] we got sight of Fort Monterey, and two three-masted vessels which lay in the road.

It is not a little remarkable, that during the whole of this long run, in the midst of the thickest fogs, the Astrolabe always sailed within hail of my ship, and was never farther from her, till I gave orders to M. de Langle to reconnoitre the entrance at Monterey.

The parish church is very neat, although covered with straw; it is dedicated to Saint Charles, and ornamented with pretty good paintings, copied from Italian originals.

. The missionary's house is in front of the church, as are also the different storehouses. On the right stands the Indian village, consisting of about fifty cabins, which serve as dwelling places to seven hundred and forty persons of both sexes, comprising their children, which compose the mission of Saint Charles, or of Monterey.

These cabins are the most miserable that are to be met with among any people; they are round, six feet in diameter, by four in height; some stakes, of the size of an arm, fixed in the earth, and which approach each other in an arch at the top, compose the timber-work of it; eight or ten bundles of straw, very ill arranged over these stakes, defend the inhabitants, well or ill, from the rain and wind; and more than half of this cabin remains open when the weather is fine; their only precaution is to have each of them two or three bundles of straw at hand by way of reserve.

All the exhortations of the missionaries have never been able to procure a change of this general architecture of the two Californias; the Indians say, that they like plenty of air, that it is convenient to set fire to their houses when they are devoured in them by too great a quantity of fleas, and that they can build another in less than two hours. The independent Indians, who as hunters so frequently change their places of abode, have a stronger motive.

* From *A Voyage Round the World, in the Years 1785, 1786, 1787, and 1788, by J. F. G. de la Pérouse: Published Conformably to the Decree of the National Assembly, of the 22d of April, 1791, and Edited by M. L. A. Milet-Mureau, Brigadier General in the Corps of Engineers, Director of Fortifications, Ex-Constituent, and Member of Several Literary Societies at Paris. In Three Volumes. Translated from the French. London: Printed for J. Johnson, St. Paul's Church Yard. 1798.*

The situation of the establishment [Mission San Jose] is admirably chosen, and according to the universal opinion, this mission will in a few years be the richest and best in New California. The only disadvantage is, that there are no large trees very near. . . . To compensate this disadvantage, there are in the neighborhood of the mission chalk-hills, and excellent brick-earth, so that most of their buildings are of brick. . . .

Father Pedro, who shewed me about every where, proposed, when we had visited all that he thought worthy of observation, to go and see the Indians preparing for their dance. I accepted his proposal with delight, and he led me to a small stream, by the side of which the dancers were assembled, extremely busy in smearing their bodies over with charcoal-dust, red clay, and chalk. One was ornamenting his breast, another his belly, another his thighs, and another his back, with regular figures of various kinds. Some were ornamenting their otherwise naked bodies all over with down feathers, which gave them rather the appearance of belonging to the monkey species than of being men. Their heads, ears, and necks, were set off with a great variety of ornaments, but the bodies, except a covering about the waist, were naked. The women were at the same time performing the offices of the toilet in their houses; they were all, consistently with the laws of decorum, dressed; their faces and necks only were painted, and they wore also a profusion of ornaments of shells, feathers, and beads.

* From *Voyages and Travels in Various Parts of the World, During the Years 1803, 1804, 1805, 1806, and 1807*. By G. H. von Langsdorff, Aulic Counsellor to His Majesty the Emperor of Russia, Consul-General at the Brazils, Knight of the Order of St. Anne, and Member of Various Academies and Learned Societies. Part II, Containing the Voyage to the Aleutian Islands and North-West Coast of America, and Return by Land over the North-East Parts of Asia, Through Siberia, to Petersburg. Illustrated by Engravings from Original Drawings. London: Printed for Henry Colburn, English and Foreign Public Library, Conduit-Street, Hanover-Square; and Sold by George Goldie, Edinburgh; and John Cumming, Dublin. 1814. Original drawings were by Wilhelm Gottlieb Tilesius von Tilenau.



FIGURE 249. BRICK, TILE, AND ADOBE AT MISSION SAN ANTONIO DE PADUA, 1903.
Photo from the collection of The Huntington Library.

Visitors From the Rurick *
OTTO VON KOTZEBUE

This afternoon, accompanied by all our gentlemen, I took a walk into the Presidio [San Francisco], where we were received at the gate by the commandant, Don Louis d'Arguello, and saluted with eight guns, and then conducted to his residence. I found the Presidio as described by Vancouver; the garrison consists of a company of cavalry, of which the commandant is chief, and has only one officer of the artillery under his command.

The 4th, at eight o'clock in the morning, we all rowed to shore, and went into the Presidio to ride to the Mission, according to our promise, in company with the commandant. . . . The weather was extremely fine, and an hour's ride brought us to our journey's end, though above half of the road was sandy and mountainous. Only a few small shrubs here and there diversified the barren hills; and it was not till we arrived in the neighbourhood of the Mission, that we met with a pleasant country and recognized the luxuriant scenery of California. After passing through a street inhabited by Indians, which is the name given by the Spaniards here to the savage tribes, we stopped before a large building, adjoining the church, the residence of the missionaries, and were received by five priests, of whom three belonged to this Mission, and the two others had come from St. Clara to be present at the celebration of the festival [of St. Francis]; they conducted us to a large, dirty room, plainly furnished, where we were received with much respect. Precisely at ten we entered the church, which is spacious, built of stone, and handsomely fitted up, where we already found several hundred half-naked Indians kneeling. . . . After dinner they showed us the habitations of the Indians, consisting of long, low houses, built of bricks, and forming several streets. The uncleanliness in these barracks baffles description, and this is perhaps the cause of the great mortality; for of a 1000 Indians at St. Francisco, 300 die every year. The Indian girls, of whom 400 are in the mission, live separate from the men, likewise in such barracks: both sexes are obliged to labour hard.

ADELBERT VON CHAMISSO

. . . . The accounts of La Peyrouse and Vancouver . . . we found very correct. Since their time there has been but little change in California. A fort, erected in a good situation, guards the harbour of San Francisco. The Presidio is new built with stone, and covered with tiles. The building of the chapel has not been begun. In the missions they build in the same manner, and the barracks of the Indians at San Francisco are of similar construction. An artilleryist has erected mills in the missions, worked by horses; but they are now for the most part out of order, and cannot be repaired. At San Francisco is a stone which a horse turns without mechanism over another stone, the only mill in order. The Indian women rub the corn between two stones for immediate use. A windmill of the Russian American Company's settlement creates astonishment, but does not find imitators. Some years ago, when artisans were brought here at great expense to teach the necessary arts, the Indians profited more by their instructions than the *gente rational* (rational people) as the Spaniards call themselves.

* From *A Voyage of Discovery into the South Sea and Beering's Straits, for the Purpose of Exploring a North-East Passage, Undertaken in the Years 1815-1818, at the Expense of His Highness The Chancellor of the Empire, Count Romazoff, in the Ship Rurick, Under the Command of the Lieutenant in the Russian Imperial Navy, Otto von Kotzebue. Illustrated With Numerous Plates and Maps. In Three Volumes. London: Printed for Longman, Hurst, Rees, Orme, and Brown, Paternoster-Row. 1821.*

A. DUHAUT-CILLY *

The 28th, we saw at the same time the islands forming the channel, called Santa Bárbara, and Point Conception. This point, beyond which the coast takes an easterly direction, is very remarkable from its form. Appearing like a wedge, it rises from the sea; then falling toward the interior, after describing a long trail, it ascends again gently to the tops of the mountains.

As soon as we had passed this cape, the sea, before very much disquieted, became fair and smooth; but the breeze was light, and we advanced but slowly, having on our right the islands of San Miguel, Santa Rosa and Santa Cruz.

The coast, along which we continued at a distance of two miles, is dominated by a chain of mountains parallel to the shore, and from six to seven hundred metres in elevation. At their base stretches a plain ending in vertical walls of rock, leaving between them and the sea a narrow beach of sand and pebbles. This flat country, where graze large herds of horses and cattle, is agreeably cut, at almost equal distances, by narrow valleys. In these ravines grow thick clusters of beautiful oaks, whose crowded bushy tops seem to bring to the same level all this ground: streams run through these valleys and serve to furnish water to the cattle feeding all about here. . . .

While we went along by this shore, we found the sea almost everywhere covered with asphaltum, now in the form of round flat slabs of some thickness, now in that of large sheets of oil and tar, spread over the water and displaying yellow or blue reflections. The odor exhaled by this stuff was powerful enough to be annoying, and make breathing troublesome and difficult. I knew not for some time whether this natural pitch, spread over the entire channel in such great quantity, flowed from some point on the coast, or its source gushed up from the bottom of the sea: it was only on another stop at Santa Bárbara that I learned that half-way from this presidio to Point Conception, between the rancho de Los Ortigas and that of Los Dos Pueblos, there is a large pond of asphaltum boiling unceasingly, and whose excess overflows into the sea from which this spring is not far distant. . . .

We went finally on foot to the mission [Santa Barbara], situated at the upper end of the plain a half-league from the presidio. The road leading to it ascends very slightly as it crosses a beautiful grassy meadow, where graze the horses used at the presidio and the cows supplying it with the daily milk. As we went on, the mission buildings presented a finer appearance. From the roadstead, we could have taken it for a mediaeval castle, with its lofty openings and belfry; approaching nearer, the building grows, and while losing none of its beauty, assumes little by little a religious aspect; the turret becomes a bell-tower; the bell, instead of announcing the arrival of a knight, rings for service or the angelus; the first illusion is destroyed, and the castle becomes a convent.

In front of the building, in the middle of a large square, is a playing fountain, whose workmanship, quite imperfect as it was, surprised us the more, the less we expected to find in this country, so far from European refinement, that kind of luxury reserved with us for the dwellings of the wealthiest. After rising to a height of more than eight feet above the ground, the clear and sparkling water of this fountain fell again in broad sheets upon a descending series of stone basins forming altogether an octagonal pyramid; it filled a reservoir of the same shape to the brim, whence, issuing from the jaws of a bear, also in stone,

* Translation by George Franklin Carter, reproduced from *Dubaut-Cilly's Account of California in the Years 1827-28*, and published by permission of California Historical Society, copyright owner. The original translation appears in the California Historical Society Quarterly volume 8, 1929.



FIGURE 250. "IN FRONT OF THE BUILDING, IN THE MIDDLE OF A LARGE SQUARE, IS A FOUNTAIN" Photo from the collection of The Society of California Pioneers.



FIGURE 251. STONE BEAR'S HEAD AS IT APPEARED IN 1951.



FIGURE 252. "WE WENT UP A FLIGHT OF SEVERAL STEPS LEADING US TO A LONG PERISTYLE OR CLOISTER, SUPPORTED BY FIFTEEN SQUARE PILLARS FORMING FOURTEEN ARCHES WHICH, FROM A DISTANCE, GIVE THE MISSION THAT NOBLE APPEARANCE WHICH SURPRISED US AT THE FIRST SIGHT OF IT" *Photo by Watkins (new series), from the collection of The Huntington Library.*

it fell into a fine layer in stucco, around which some Indian women and California girls were busy washing. The latter looked at us from below through the beautiful tresses of their chestnut hair, and I presume the examination they made of two strangers was as perfect as it was swift.

In all countries the fair sex along possess this gift of estimating an individual, and particularly of seizing upon his oddities in a trice with a stealthy look. I saw one of these young girls smile almost imperceptibly; perhaps I myself was the cause of her mischievous mirth; but the rather grotesque appearance of my companion, his teeth calcined by the immoderate use of tobacco, and his simian head, on a slender body of four feet eight inches: all this should have quieted my self-love a little.

We went up a flight of steps leading us to a long peristyle or cloister, supported by fifteen square pillars forming fourteen arches which, from a distance, give the mission that noble appearance which surprised us at the first sight of it. . . .

Fray Antonio Ripoll, a man of good countenance and distinguished mind, put to me some questions; and when I had satisfied his curiosity, or rather his anxiety, he proposed to us an inspection of the mission buildings and the church.

The facade of this chapel is ornamented with six half-columns supporting a triangular front, bearing several statues of saints. The body of the church consists only of a nave with low arched roof, without side aisles. The construction of this edifice would have been nothing to excite surprise, had it been built by Europeans; but if one consider that it is the work of poor Indians, guided by an ecclesiastic; that it is erected in a country which, though it contain all



FIGURE 253. BRICK, STONE, AND MORTAR. Santa Margarita, asistencia to Mission San Luis Obispo. Photos from the collection of The Huntington Library.

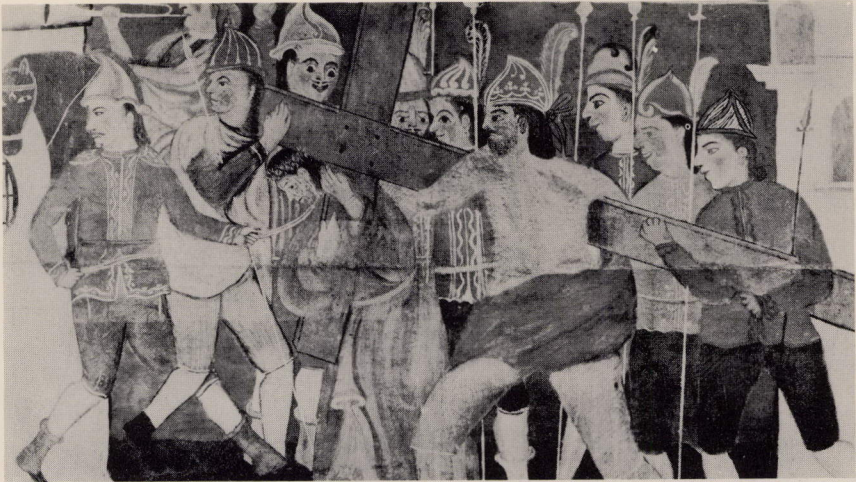


FIGURE 254. "THE NAVE, THE ALTAR, AND THE VESTRY ARE DECORATED WITH PAINTINGS FROM THE HAND OF THE INDIANS THEMSELVES" Station of the Cross painting from Mission San Gabriel. Photo from the collection of The Huntington Library.

the materials required, at least supplies them to the hand using them only in the rough state in which nature produces them; one cannot tire in admiration of the patience of this religious, the talent he has shown, and the care he must have taken for such a building.

With us, does one wish to undertake the erection of a building of this kind? Ten architects, with their plans and estimates, present themselves for it. One has merely to select the one most suitable; purchases are made from the furnishers; all the materials, ready to be put in place, are brought to the designated spot, without anyone having to be concerned about a single thing, other than to prove their quality and give them the finishing touch; lastly, the best workmen contend for the choice over their rivals.

Here, on the contrary, everything is in the rough, even to the men, and the first care of the builder has been to form his workmen. Out of the mere earth he has had to make bricks and tiles; to cut immense trees, far away, and to bring them, by physical strength, over roads marked out expressly across ravines and precipices; to gather, at great expense, on the seashore, shells to make into lime; finally, everything, to the most trifling, connected with this edifice, has cost preliminary labors, which must have increased the difficulty very much. One is, at the same time, astonished at the boldness of the plan and the perseverance in its execution: only a boundless zeal for the spread of religion can have made Padre Ripoll conqueror over so many obstacles. He has not, however, employed much more time for completing the building than would have been necessary in Spain. . . .

The nave, the altar, and the vestry are decorated with paintings the best ones of which came from Mexico; the rest are from the hand of the Indians themselves. The pillars, frieze, framings and bases are marbled with a good deal of taste and decorated with arabesques passably executed. What heightens still more all this mass, and inclines one to be indulgent with regard to defects of architecture, is an excessive neatness, not found in our churches of the third and even of the second, order. . . .



FIGURE 255. INTERIOR OF CHAPEL, ASISTENCIA SAN ANTONIO DE PALA, ABOUT 1888, SHOWING FLOOR TILE AND WALL DECORATIONS. Photos from the collection of The Huntington Library.

The project completely engrossing [Father Ripoll] at this time was a water-mill he was having built at the foot of a hill to the right of the mission. The water, brought from more than two leagues by a canal following the side of the mountains, was to fall from a height of about twenty feet upon the buckets of a wheel. The fall of this motive power was not vertical: it worked at an angle of about 35 degrees; the wheel also, instead of being vertical was horizontal; it was a full circle, upon whose plane were arranged, like spokes, a sort of large, slightly concave spoons, which were to receive, one after another, the impulse and transmit the movement.



FIGURE 256. BAPTISMAL FONT AND WALL PAINTINGS AT SAN ANTONIO DE PALA, ASISTENCIA TO MISSION SAN LUIS REY DE FRANCIA, 1898. Edith Webb, in her paper *Pigments Used by the Mission Indians of California*, states: ". . . . the Padres of Mission San Gabriel included in their first *Memoria* a request for a book entitled 'Painting without an Instructor' ('un libro intitulado Pintar sin Maestro, o cosa semejante'). They also asked for a dozen brushes That book and the one of designs said to have been used at Mission San Miguel would be worth the proverbial king's ransom could they be found today In 1787, Vitruvius' *De Architectura Libri Decem* were translated from the Latin into Spanish. A copy of this translation is in the Santa Barbara Mission Archives those pages devoted to the study of pigments and their preparation for use furnish complete instructions for the manufacture of paints from native minerals and earths in Vitruvius' book and that one ordered in the San Gabriel *Memoria* of 1771, the Padres had all the necessary instruction for wall painting." Photo from the collection of The Huntington Library.



FIGURE 257. BRICK, PEBBLES, AND STONE IN THE BELL TOWER AT MISSION SAN DIEGO DE ALCALÁ, 1905. Photo from the collection of the California Historical Society.

At first glance I was surprised that the padre, a man of judgment, should have preferred to have the fall inclined, when it was so easy for him, in cutting a hill to a steeper slope, to make it much more powerful; for without being a hydrostatician, I readily perceived that his motive power lost the more of its force, the farther was it inclined from the vertical. But before expressing my opinion, reflection brought me back to the inventor's idea; and I believed I saw that whatever motive power he lost at first, he gained it from another side, in avoiding the friction from two sets of cog-wheels, since the turning grindstone would be fixed upon the axle of the wheel.

Another objection also can be made, in regard to the speed of rotation; for in this plan it is the same for both wheel and grindstone, while in our ordinary combination, the speed of the grindstone increases in the relation of the radius of the wheel to the radius of the axle-hub. Besides, Fray Antonio's workmen, being little skilled in mechanics, he avoided many imperfections by simplifying the machinery, and I had no doubt of the complete success of his undertaking. I brought to his attention, however, the fact that the quality of the stone he used for his grindstones, being made from the same stone, was not suitable; because being entirely composed of almost homogeneous parts, and of equal hardness, it would grow smooth too quickly. After dinner the president went to take his siesta, and we returned to the ship. . . .



FIGURE 258. ADOBE, BRICK, AND TILE. Mission San Fernando about 1870.
Photos from the collection of The Huntington Library.



FIGURE 259. ADOBE BRICK. Mission Soledad as it appeared in 1951.

DUFLOT DE MOFRAS

Translation by Dorothy G. Jenkins

During the period when the monks were establishing the missions for the purpose of civilizing the Indians, the governors were founding military posts, called presidios, and pueblos (villages), peopled by married soldiers and white colonists who were brought from Sonora, Sinaloa, and Baja California. Since these three types of establishments, missions, presidios, and pueblos, were all developed on the same plan, it will suffice to describe one to give an idea of all the others. We shall choose as a type the mission consecrated to San Luis Rey de Francia, which is the most beautiful and most regular in architecture. (See in the Atlas the perspective, no. 23, and the geometric plan, no. 20, of the Mission San Luis Rey de Francia.)

Description of a Mission. The building is a quadrangle one hundred and fifty meters in length; the church occupies one of the wings; the façade is ornamented with a gallery. The one-story building is in general raised on a surface excavated a few feet below the ground. The interior is arranged as a court with fountains and planted with trees. Opening onto the surrounding arcade are the doors of the apartments of the monks, the managers and visitors, also of work-rooms, schoolrooms, and stores. The infirmaries for men and for women are located in the quietest parts of the Mission, as are the schoolrooms. The young Indian girls are domiciled in rooms called the monastery, and they are given the name of nuns. The monks find it necessary to keep them in confinement in order to protect them from the brutality of the natives. . . .

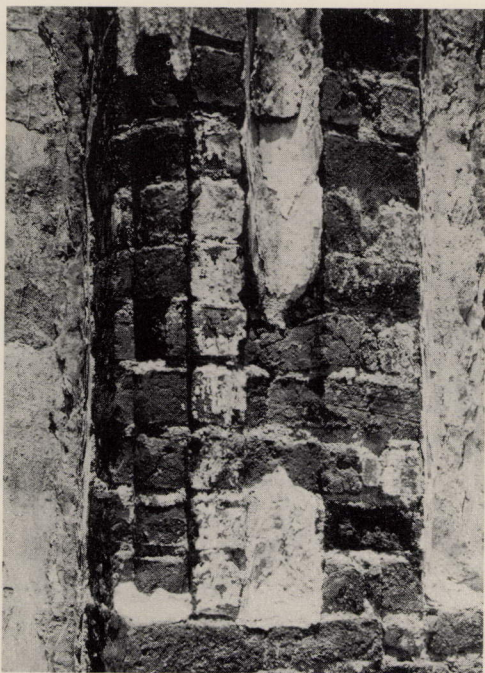


FIGURE 260. DETAIL OF CONSTRUCTION, MISSION SAN LUIS REY DE FRANCIA. Photo by J. W. James, 1904, from the collection of The Huntington Library.



FIGURE 261. "..... THE MISSION CONSECRATED TO SAN LUIS REY DE FRANCIA IS THE MOST BEAUTIFUL AND MOST REGULAR IN ARCHITECTURE " *Photo from the collection of The Huntington Library. Newcomb, in The Old Mission Churches and Historic Houses of California, makes the following comments upon the mineral materials used in construction at the missions:*

"Although California as an American state has within her boundaries vast resources in the way of building materials, the California of Spanish days had a comparatively meagre supply of good building material. Especially was this true of stone of durable quality, and in the south, of wood also. In the case of stone the supply for some of the missions had to be brought from a distance. Usually, however, the stones used were those nearest the site of the proposed structure, and consisted of granite boulders, taken from the washes, volcanic stones from the near-by foothills, chalkstone, limestone, and sandstone. As a general thing, the stones employed would not be considered worthy of use today in the better class of structures, but protected with stucco, as they usually were, these stones have served their purpose well.

"Lime was made either by burning limestone, which, although not of the best quality, was obtainable, or by burning sea-shells, of which there was a never-failing supply. Since all wall surfaces, inside and out, were kept whitewashed, lime was necessary at all times, and it is to be guessed that the burning of sea-shells furnished the greater part of this

"..... The first temporary quarters, hastily built, were little better than brush huts with grass-thatched roofs. These were built in the fashion of the Indians and never endured long. The earliest of the buildings that can really be considered habitations were constructed of wooden posts of pine or cypress, set close together and plastered inside and out with clay. After the clay had dried the walls were treated to a heavy coat of whitewash. Usually this type of structure was roofed with poles over which twigs were spread and upon these a layer of mud. The mud roofs were never successful in keeping out the heavy winter rains, so the Indian method of making a thatch of tule was next adopted. Thatch roofs were very inflammable and several disastrous fires were experienced before the padres began to make burned-clay roofing tiles like those used in Spain

"Where wood was scarce, the making of sun-dried adobe brick was early taken up. The second structure at most of the missions was of adobe. The adobe walls, due to the low bearing-power of the material, had to be very thick. Many examples are five and six feet in thickness and few are less than three feet. As soon, however, as a mission was strong and prosperous, the pride of the padre usually extended to an ambition to build a church in more lasting material, hence stone or burned brick were employed.

"Clay is available at almost any point along the coast and was used for making bricks, roofing-tiles, drains, and ollas (jugs). Most of the brick were of a red color, rather soft but durable. They were used for all purposes to which we would put brick today; for walls, arches, piers, and chimneys, and, since no wooden floors were used, for pavements of the cloisters, courts, and rooms as well. There were various forms, but the ordinary brick was flat, being about $1\frac{1}{2}$ " to 2" thick, and about 10" x 10" square, thus resembling the Spanish and Mexican variety.

In order to encourage the Indians to work, the Fathers often turn their own hands to labor, and they serve as examples everywhere. It was only a few years ago that Father Cavallero, president of the Dominicans, died with his hand on the plough in the midst of his neophytes at the Mission Notre Dame de Guadalupe. Necessity compelled them to be industrious; one is struck with astonishment when he sees with what poverty of resources, more often than not with no European workers, aided only by savage people with almost no intelligence and often hostile, they have succeeded, in addition to their great agricultural achievements, in executing considerable architectural and mechanical works, such as mills, machines and other devices, bridges, roads, and irrigation canals. For the construction of almost all these missions they had to bring in from distances of eight or ten leagues from the chosen spot great logs of wood cut in the most rugged mountains, and to teach the Indians to make lime, dress stones and mould bricks.

Around the mission are grouped buildings housing the various crafts, the cabins of neophytes and a few white colonists. Besides the central establishment there are, over an extent of thirty or forty square leagues, accessory farms and a few subsidiary chapels. Opposite the mission there is a military post where the monks' escort is lodged. This escort is composed of four cavalry soldiers and one sergeant; it is also used as a dispatch service to carry orders from one mission to another, and to repulse the attacks of savage tribes which, in the early days of the conquest used to harry the settlements. . . .

Description of a Presidio. The Presidios were all built on the same plan. A favorable situation was chosen and surrounded by a ditch four meters wide and two deep. The excavated earth heaped up served as an outer rampart. The enclosure of the Presidio was formed by a quadrangle about two hundred meters in length. The rampart or wall was constructed of brick, four or five meters in height and one in thickness. Small bastions flanked the corners; the Presidio had only two portals. Generally its entire armament consisted of eight bronze cannons of eight, twelve, and sixteen caliber. Although of insufficient strength to resist a serious attack made by ships of war, these fortifications were all that was needed to repulse incursions of Indians. Near the Presidios and in accord with the topography of the terrain, open earthworks were raised, dignified with the name *castillo* (castle). Within the enclosure of the Presidio were found the church, the lodgings of the officers and men, the houses of a few colonists, stores, workrooms, stables, wells, and cisterns. Outside were grouped a few dwellings, and at a little distance the royal farm (*el rancho del rey*), destined to furnish pasturage for the horses and beasts of burden of the garrison.

Four coast batteries and four Presidios constituted the defense of Alta California: those of San Diego, Monterey, San Francisco, and Santa Barbara. . . .

"Adobe, a material widely distributed in California and the Southwest, was largely employed during the mission period. It is a material that, used with judgment, will endure for many years. It was fashioned into sun-dried brick, which were made sometimes with straw as a bond, but more often depended upon the natural grog of fine particles of disintegrated rock. Brick of this sun-dried variety, laid up with mud as an adhesive, have been employed from early antiquity down to our own day, their use in Spain dating from the conquest of the Moors. The idea was carried into Mexico and California, and adobe, being easily obtainable, became a popular material throughout the province. Of course the padres knew perfectly well that walls made of adobe must be protected from the elements, hence such walls were covered with stucco. Roofs were given a wide projection in order to ward off the intense sunshine and protect the adobe walls from the weather."



FIGURE 262. MISSION SAN LUIS REY DE FRANCIA—ANCIENT ENTRANCE TO VINEYARD. Photo from the collection of The Huntington Library.



FIGURE 263. MISSION SAN LUIS REY DE FRANCIA—ENGAGED CIRCULAR PILLARS IN MORTUARY CHAPEL, 1905. Photo from the collection of The Huntington Library.

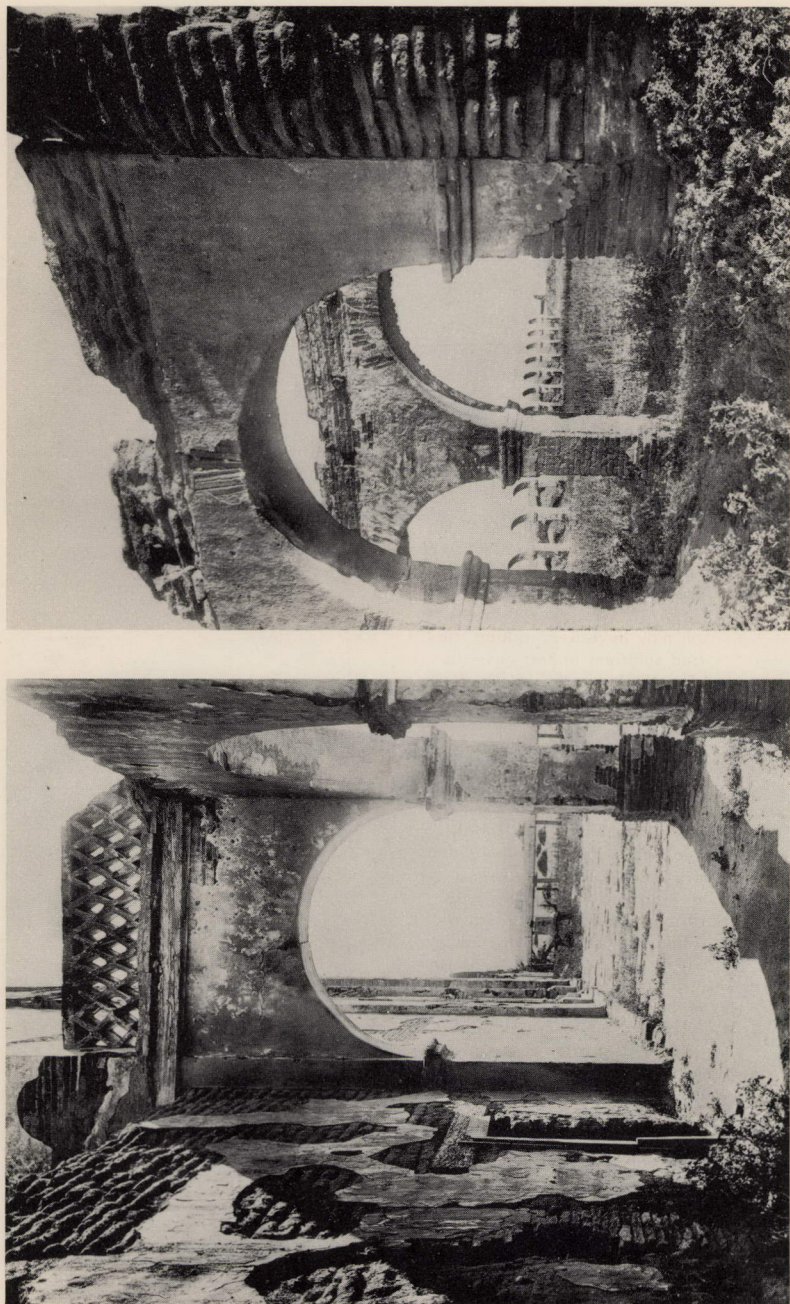


FIGURE 264.

One day when I went to see him [Fr. Tomás Esténaga, San Gabriel Mission], I found him in a field before a great table, his hood thrown aside, his sleeves pushed up, moulding clay in his hands and demonstrating to the neophytes that surrounded him, how to make bricks. As soon as he saw me he waved his hand at me, calling out: "*Amigo! con esta familia, Consilio Manuque!*"

One of our countrymen, M. Charles Baric, who, because of his intelligence and his knowledge of the country, would be able to tender the greatest service, carries on business throughout the province, but for some time now he has been devoting himself to the exploitation of a mine of virgin gold in grains which he has discovered on the Rancho San Francisquito, six leagues in the mountains north of Mission San Fernando. This vein extends for sixteen leagues, following the course of the ravine in which it is situated. The gold is found near the surface of the ground, and some of the nuggets weigh from two to three eighths of an ounce. It is purchased in the region at fourteen piastres an ounce in money, or sixteen piastres in merchandise. At Rancho de Cahuenga, two leagues distant to the northwest of the Pueblo, there are some minerals of silver, never mined because of the lack of quicksilver and also of people with knowledge of the

FIGURE 264. ADOBE, BRICK, AND TILE. Mission San Luis Rey de Francia, 1900. Photos from the collection of The Huntington Library.

The making of adobe bricks is described by J. N. Bowman, in *Adobe Houses in the San Francisco Region*, in Division of Mines Bulletin 154, as follows:

"Adobe bricks in provincial California were made from the soil near the site of the building to be erected; the soil may have been adobe, clay, loam, or sandy or gravelly earths. Most of the adobe soil possessed sufficient adhesiveness to hold together when dried, but the other soils required a binder. The binder in the bricks of the early buildings consisted of weeds or tules, or any other vegetation at hand; later, after grains had been introduced and cultivated, the straw of wheat and barley or wild oats was used; so too was the refuse from the kitchen garbage can

"The making of California adobe bricks was a simple process inherited from the early Spanish settlers as developed and practiced in Mexico and Spain A convenient level spot was selected near the proposed building site and near the water supply from a spring or creek. The ground was spaded up and sometimes slightly excavated in order to hold water. When the loose earth was saturated with water, bare-legged servants, usually Indians, tramped the wet earth and the binder into a well-mixed consistency suitable for carrying to and placing in the brick moulds. On a level area nearby were the brick forms The dimensions of the forms were usually divisions of the *vara* about two-thirds in length and one-third in width, or about 22 by 11 inches. This size mould made the typical California adobe brick weighing 20 to 40 pounds—convenient to carry and easy to handle in the construction of the house. Some smaller forms were made for special-purpose bricks; those to be burned in the mission kilns were about 8 by 10 inches. The thickness of the brick was the depth of the mould—2 to 5 inches, on the average 3½ inches; most bricks for the kilns were about 2 inches thick.

"After the forms had been placed in convenient rows and the earth well mixed with binder, the 'mud' was carried by hand or in baskets to the forms, tamped down with hands or feet onto the level ground and against the sides and ends of the moulds, and leveled by hand to the top of the forms. Occasionally an Indian would leave an impression of his hand or foot on the surface of a freshly packed brick, or a literate workman would print his name and the date on the surface; sometimes, too, a domestic or wild animal would leave a footprint on the adobe before it had dried.

"The bricks were allowed to dry in the sun; as soon as the tops were fairly dry, they were turned over. Then, when the underside was dry, they were taken from the forms and set on edge so that the drying process would be uniform and there would be no cracking. Finally the bricks were stacked in convenient rows to await their use in construction.

"A small one-room house required about 1,000 bricks; the typical two-room dwelling needed perhaps 2,500 bricks for its walls and partitions, and as replacements for broken or defective bricks. For very large buildings like the mission churches, priests' houses, and mills, the number of bricks needed ran into the thousands. On ranchos where a number of buildings were to be erected a 'brick yard' was established, like that of Jose de Jesus Vallejo in the small ravine at Niles across the highway and north of the present nursery. He used the bricks in his houses and mill."

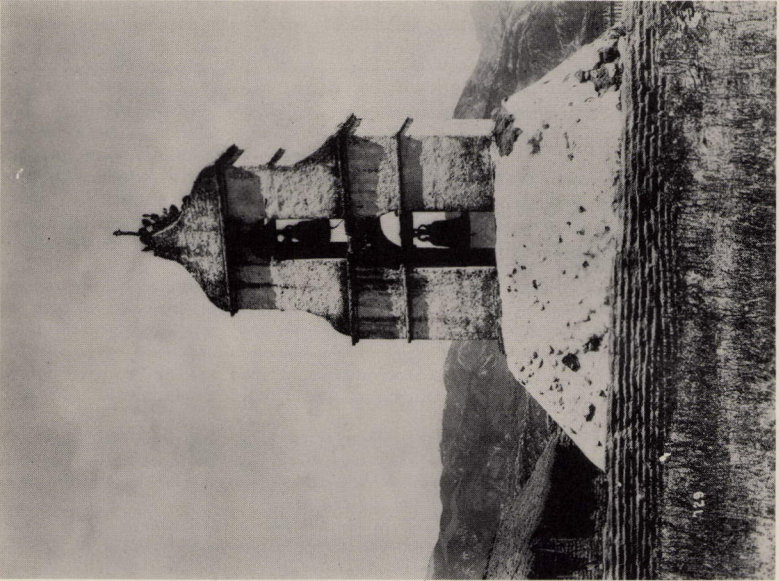
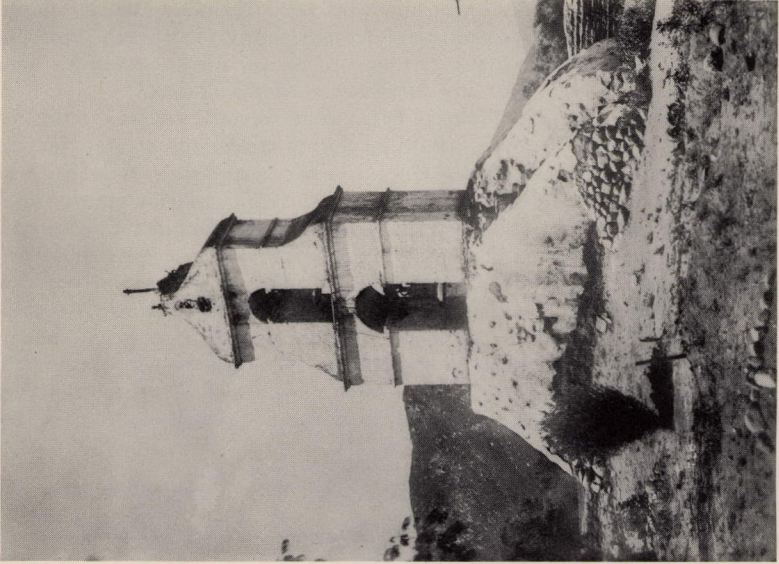


FIGURE 265. FRONT AND REAR VIEWS OF BELL TOWER, SAN ANTONIO DE PALA ASISTENCIA.
Photos from the collection of The Huntington Library.



FIGURE 266. RUINS OF STONE CHURCH, SAN JUAN CAPISTRANO MISSION, AND BELLS, AS THEY APPEARED IN 1886. *Photo from the collection of The Huntington Library.*

mining industry. The Indians often bring in, from the mountain range, grains of native copper, fragments of opal, and pieces of galena (lead sulphide).

Two leagues to the southeast there are four great seepages of asphalt, situated practically on the surface, in a broad meadow. These springs well up in the midst of little ponds of water, which is cool while the bituminous material is of a higher temperature. The water has a mineral taste, which, however, does not prevent animals from drinking it. At sunrise the orifices of these springs are covered by huge balls of asphalt, often a meter in height, resembling soap bubbles. As the air becomes warm the gas enclosed in the bell expands and the bubble bursts with a fairly loud noise. People who live in the region collect the solidified asphalt and use it to coat roofs of their houses, which are made of reeds or thin boards (shakes). This bituminous matter is also transported by boat to various distribution points. This material, however, has the disadvantage of melting in the sun, running off the roof and infiltrating the roofing material. Houses which are so covered require much in the way of upkeep, although inexpensive, since each user has to gather the material at the seepage, according to his own needs.

In Santa Barbara channel the current comes from the north and follows the trend of the coast; the springs of asphalt that pour into the sea spread over the surface an oily and blackish film which is visible from a distance, and gives off a bituminous odor noticeable for several leagues around.

Mission Santa Barbara. Mission Santa Barbara is situated a mile from the sea and two kilometers from the Pueblo, at the foot of a range of arid mountains that protect it from winds from the east and north. Its construction is very regular: its gallery, formed by arcades, and the church with its two fine towers, are built of dressed stone. The gardens and orchards are extensive and well watered; within the mission grounds there is a great fountain, the water for which comes from the heights above and provides power for an excellent mill. In the mountains there are calcareous deposits of shells which have been used for building. This mission, narrowly enclosed between sea and mountains, has but little terrain suitable for agriculture, and it has never attained great development.

A league and a half north of Santa Barbara on the coast lies the Rancho la Brea, near which several flows of tar empty into the sea. On the beach and at

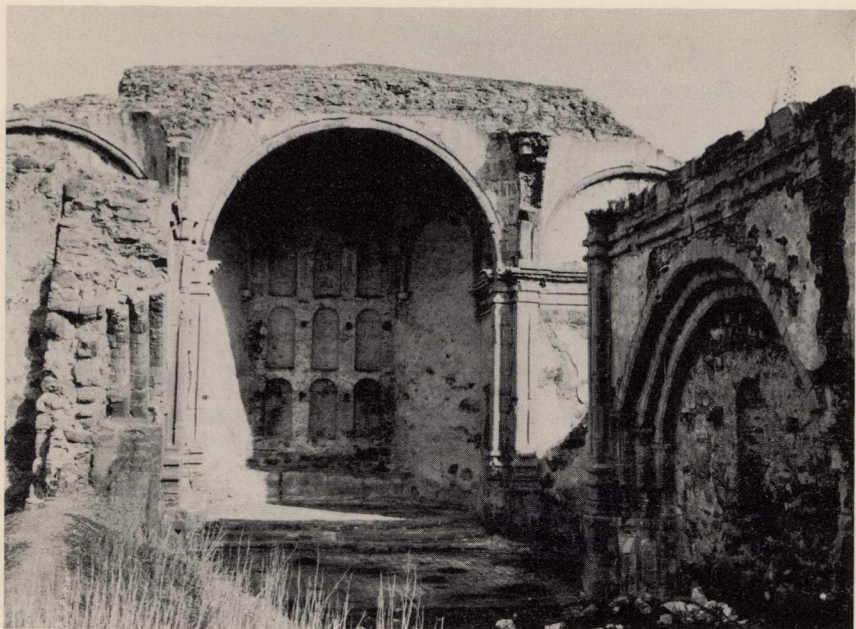


FIGURE 267. CLOSE-UP OF STONE CHURCH, MISSION SAN JUAN CAPISTRANO, AS IT APPEARED IN 1885. The building was ruined by an earthquake in 1812. *Photo from the collection of The Huntington Library.*



FIGURE 268. MISSION SAN JUAN CAPISTRANO, 1885. Interior of original baptismal font of church, with original stone baptismal font, tile floor, and statues. *Photo from the collection of The Huntington Library.*

several other places hardened bituminous crusts are found. Seven leagues inland, twenty-six leagues from Los Angeles and east of the Pueblo of Santa Barbara, on the Rancho de las Pozas, there is a volcano, the slightly elevated crater of which gives forth fumes from time to time. The exhalations of this volcano are full of sulphur. At a place about a mile from the mission springs of sulphurous water are found, of which the temperature is close to that of boiling water.

. [Sutter's Fort] is located two miles east of the river, and one mile south of the American Fork. Between the landing and the buildings lies a lovely plain shaded by enormous oaks. Habitations could not be built on the immediate banks of the Sacramento River because of yearly floods. The Fort of New Helvetia backs on a little stream to the north, the bordering cliffs of which make a part of the defenses; the enclosure is surrounded by a wall five feet thick, made of bricks baked in the sun, and supported by huge logs: each face of the quadrangle is one hundred meters long; the angles are flanked by square bastions two stories high; each of the four sides is provided with doors and other openings, and an open gallery crowns the entire wall.

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