

# UCAREO AND THE ESCORIAL <sup>1</sup>

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**M**EXICO has often endowed Spain with gifts that were ill acknowledged. In the sphere of a jealously-nationalized artistic production, moreover, the mother-country's expressions of gratitude to the daughter have been few. Thus it is not an easy matter to trace the transmission of various cultural goods from America to the Peninsula. Foreigners have occasionally pointed to the debts. Otto Schubert <sup>2</sup> indicated several years ago that Andalusian art, notably in the Cartuja of Granada, owes much of its high artistic discipline to "Indo-Mexican" stimuli. It should also be possible to demonstrate a transfer of the principle of the "open chapel" to Peninsular architecture, specially at the Escorial itself. <sup>3</sup> That task, however, I shall reserve for another essay.

It is the object of this paper to suggest still another possible borrowing by Spain from Mexico, in the construction of the Escorial. The loan is one of greater significance than the supply of tropical woods that Mexico furnished. It involves a highly-specialized technique of construction. I shall try to show that in the decade 1550-1560, an obscure Augustinian friar named Juan de Utrera devised a method of accelerated and econo-

mical construction at Ucareo in the bishopric of Michoacan, and that this method later became critically important in Juan de Herrera's reorganization of the Escorial quarries, after 1576. It is possible to propose a historical connection between the two events. I shall begin with a review of happenings at the Escorial.

In 1572, the Escorial had been under construction for virtually ten years. <sup>4</sup> Philip's project of building the gigantic mausoleum requested by Charles V had been in realization since 1554; the site was chosen in 1561, by a learned commission acting according to the precepts of Vitruvius, and the first stone was laid on April 23, 1563, after a two-year interval of planning and deliberation. But by 1572, relatively little had been achieved. The foundations for the chief element of the vast complex, the basilica itself, had not been laid. Most of the northern half of the gridiron plan was still in foundations, and the facades of the Patio de los Reyes remained half-built (Fig. 1). Progress had been greatly impeded by the death in 1567 of the first architect, Juan Bautista de Toledo. Toledo had established the ground plans for the Escorial, but his design was criticized by an Italian authority as being naive and crude. <sup>5</sup> Juan de Herrera, Toledo's assistant, was placed in charge after his master's death, only to be frustrated in the discovery that Toledo had left no plans for the execution of the roofs of the structure. <sup>6</sup> Thus, in 1572, energetic measures were taken to hasten the rate of advance. On October 22 of that year, an extraordinary royal *Instrucción*, framed by Herrera, was issued for the conduct of the enterprise. This document consists of 52 articles relating to the organization of labor, its supervision and inspection, and many other matters, such as the wage scale. <sup>7</sup> It is unique among records of Renaissance building activity, for the extraordinary bureaucratic detail and the paternalistic attitude towards labor. One section is of special interest, and it pertains to the duties of the *aparejadores de cantería*:

"Para que haya más orden y menos costa en la saca de piedras de las canteras, recorrerán los aparejadores del oficio aquéllas, dando relación de las piedras sacadas y tanteando su utilidad, procurando que sean de las más cercanas y advirtiendo a las personas encargadas de ellas del tamaño y calidad de las piedras que fuere menester para la elección, dando el contramolde de las piezas con la demasia y ventaja que se requiere para que con menos trabajo y costa se pueden carretear y labrar. Y se manda que no se lleve al Sitio, y se tengan de respeto en él más piezas de las que fueran necesarias para la provisión de la obra".

In other words, as early as 1572, an effort was made to rationalize the supply system, and to establish some method that would reduce wastes of time and labor at the quarries. The mention of *contra-moldes* implies some use of predetermined patterns and measures for laying out the work.

Two years later, in 1574, the foundations for the basilica were begun, but no revision of the working organization seems to have occurred at that time. In 1576, however, on January 9, an important new order was issued to have all stones *cut and trimmed* at the quarry, rather than in situ at the scaffolds.<sup>8</sup> This major reform suggests some reliance upon the methods previously devised by Fray Juan de Utrera at Ucareo. The complexity of the undertaking at the Escorial had made it essential to restrict confusion at the building site. The decision to localize all stone cutting at the quarries came directly from Herrera, subject to royal approval. His proposal was opposed by a strong faction including the master craftsmen in each guild, and Fray Villacastin, the Jeronymite *obrero mayor*.<sup>9</sup> Herrera was supported by the Prior and by the *destajeros*. The opposition argued that the distance of the quarries from the scaffolds made the project impracticable; that the finished stones would be damaged in transit, and that it would be impossible properly to feed and equip the army of stoneworkers at the quarries.

Herrera's notion appears to have struck the conservatives with all the impact of a radical reform. The Asturian architect cited ancient authority for his plan, and invited Philip II to arbitrate the question. According to Villacastin, who absented himself from the trial, the King then examined both modes of work in great detail, and decided in favor of the Herreran method, in view of the great economies of time it made possible. From that day on, construction moved at an extraordinary rate of speed. The basilica was completed in 1582, and the last stone of the complex was laid on September 13, 1584.

Herrera later claimed, in 1584, that his method had reduced costs by one half or more, and that he had completed in eight years that which would have taken eighty years to build in the old way.<sup>10</sup> The new organization of labor was repeated immediately, moreover, at Aranjuez, beginning in 1584.<sup>11</sup> In brief, a preliminary reorganization had been initiated in 1572; a rational and systematic division of labor was effected in 1576, and thereafter became a normal mode for Spanish construction.

Herrera was not the first to use this technique, nor, strictly speaking, was it his invention. On the contrary, an identical system had been used in New Spain almost a full generation earlier. At Ucareo, not far from Acámbaro in Guanajuato, the Augustinians had founded a *convento* among the scattered sierra Indians sometime between 1554 and 1557, during the Provinciate of Fray Diego de Vertavillo.<sup>12</sup> The building history of this establishment is of extraordinary interest. The first prior to be appointed was Fray Juan de Utrera, whom Basalenque qualified as a "muy grande arquitecto", who endeavored to build, not "conforme el puesto merecía, sino conforme su arte le dictava".<sup>13</sup> According to Basalenque, Utrera had already laid the foundations for an imposing structure in the remote mountain village, when the project came to the ears of Viceroy Luis de Velasco, who ordered the Augustinian Provincial to have the enterprise restricted. The Provincial complied by visiting the site, and Utrera was persuaded to spend no longer than one year<sup>14</sup> in the construction of his establishment.

Utrera, however, had already ("como diestro arquitecto", in Basalenque's phrase) arranged to have all stone cut to its final form at the quarries.

The lumber was likewise to be finished at the yards. Thousands of workmen, according to Basalenque, were thus employed, and no sound of work was heard on the scaffolds. By these means, Utrera achieved a seven years labor in once. The size of the completed buildings horrified the Provincial at the time of his next visit (Fig. 2, 3). Among other conveniences, the edifice contained a large subterranean water storage tank, to which a flight of stairs gave access. In 1673, Basalenque was impressed by the strength and finish of the work.<sup>15</sup>

That Herrera was not the first architect in the sixteenth century thus to analyze the process of supply is beyond question. It is likely, furthermore, that Herrera knew directly of Utrera's technique. The connection may be found in the Spanish voyage of Fray Alonso de la Veracruz, the erudite theologian and administrator of the Augustinian Order in New Spain.<sup>16</sup> In 1571, Fray Alonso occupied a critically important post in Madrid as Prior of the monastery of San Felipe el Real, and as *Visitador* and *Reformador* of the conventual establishments of the Kingdom of Toledo. He was so highly regarded by Philip II that he was requested to serve as general Commissioner in Madrid for the Augustinians in America. Fray Alonso did not accept the post, and later returned to

his usual duties in Mexico. 17 But it is clear that Philip was acquainted with the friar. More than ever, the King's dominant concern was with architecture in those years, and specially so in 1571, a critical time in the history of his obsession, the Escorial... It is probable that Fray Alonso informed His Majesty of the singular architectural performance at Ucareo, for the Augustinian was also deeply concerned with building problems. Under his direction, the first extensive building campaign of the Augustinians in New Spain was initiated after the pest of 1543. 18 The final link in the transmission involves Philip's close relations with Herrera, which are too well known for repetition here.

It would be wild exaggeration to insist that Herrera was exclusively dependent upon a knowledge of Utrera's method. On the contrary, Herrera was certainly acquainted with Palladio's views upon the subject. The Italian work was published in 1570, and although it is curious that no manuscript or printed copy of the book was found in Herrera's library in 1597, Herrera did insist, while defending his plan in 1576, that his system was the forgotten method of the ancients. Palladio gave no more than a faint suggestion of the technique of stonecutting prior to construction, in chapter X of Book One, entitled *De modo che tenevano gli antichi nel far gli edifici di pietra*, but Palladio's allusions are far from being specific. 19

Another text that was surely known to both Utrera and Herrera is the Old Testament description of the building of the Temple of Solomon (Kings I, v, 15; vi, 7):

"Solomon had threescore and ten thousand that bare burdens, and fourscore thousand hewers in the mountains... and the house, when it was in building, was built of stone made ready before it was brought thither so that there was neither hammer, nor axe, nor any tool of iron, heard in the house while it was building".

Basalenque says that Utrera was following Biblical example. In the case of the Escorial, it is patent over and over again that Philip II wished to identify himself with the builder-kings of the Old Testament. Thus the colossal figures by Monegro on the facade of the basilica within the Patio de los Reyes, represent Biblical builders. Later of course, the project for the Temple of Solomon, by Francisco de Villalpando, was based upon the tangible proportions of the Escorial itself. 20

Thus a whole complex of factors led to Herrera's decision to reorganize the construction methods of the Escorial. Among these factors, if the historical connection be admitted, the American experiment at Ucareo should be interpreted as the decisive element, providing a working scheme easily adapted to more ambitious undertakings.

The significance of this minute connection would be trivial unless it formed one more aspect of a relationship that appears to prevail between Europe and historic America. The New World has again and again provided the pragmatic solutions to problems in European theory. In Europe, at this time, very few towns were created, and the speculations of such early urbanists as Filarete, Alberti, and Francesco di Giorgio Martini remained on paper until their realization was approximated in America. The conversion of abstraction into tri-dimensional space characterized the urban foundations of the sixteenth century in New Spain. Similarly, the ideal society of Saint Thomas More found its material garment in the work of Bishop Quiroga, and the social theory of the Jesuits was realized only in Paraguay. The political institutions of modern America, given reality by the declarations of the decade of the 1770's in North America, are the first pragmatic manifestations of a concept of human worth and dignity that had been agitating men's minds since the foundation of Christianity. Thus the relationship between Ucareo and the Escorial constitutes a minute phase of the immensely complex and poorly-studied problem of American historical constants.

## NOTES

1 Much of the material for this article was gathered during a visit to Mexico which was made possible by a travel grant from the American Council of Learned Societies in 1941.

2 Schubert, Otto, *Geschichte des Barock in Spanien*, Esslingen: 1908. Miguel Solá, *Historia del arte hispanoamericano*, Barcelona: 1935, p. 189, has shown that the famous *mancerina* porcelain and silver owes its Spanish vogue to a Viceroy of Peru, Marqués de la Mancera (the seventeenth viceroy of Peru, in office from 1639-1648), who brought it with him from South America.

3 See Rafael García Granados, 'Capillas de indios en Nueva España', *Archivo español de arte y arqueología*, XXXI (1935), 3-27.

4 The literature of the Escorial is most extensive. A few important sources and articles may be cited here. José Quevedo, *Historia del real monasterio del Escorial*, Madrid: 1849. Fray Francisco de los Santos, *Descripción del real monasterio de San Lorenzo del Escorial. Unica maravilla del mundo*, first edition 1657, frequently reprinted. Jean Babelon, *Jacopo de Trezzo et la construction de l'Escorial: essai sur les acts à la cour de Philippe II, 1519-1589*, Bordeaux: 1922. L. Bertrand, *Philippe II à l'Escorial* Paris: 1929. Agustín Ruiz de Arcaute, *Juan de Herrera*, Madrid: 1936. Paul Guinard, *Madrid, l'Escorial et les anciennes résidences royales*, Paris: 1935.

5 Paciotti's report is given in Spanish in Ruiz de Arcaute, *op. cit.*, Appendix I, p. 147.

6 Antonio Ponz, *Viaje de España*, Madrid: 1772-94, vol. IX, p. 175.

7 The full text is to be found in E. Llaguno y Amirola and A. Ceán Bermúdez, *Noticias de los arquitectos. . .*, Madrid: 1829, vol. II, pp. 291ff.

8 At the same time, 60 additional master quarrymen were assembled. Twenty *destajeros* were chosen, and each was assigned a crew of forty stoneworkers. See Bertrand, *op. cit.*, p. 142. Schubert notes an early manifestation of the industrial principle of the division of labor. Schubert, *op. cit.*, p. 56.

9 The texts for the controversy may be found in Llaguno y Amirola, *op. cit.*, vol. II, pp. 124ff, 311.

10 Ponz, *op. cit.*, vol. IX, p. 279.

11 Llaguno y Amirola, *op. cit.*, vol. II, p. 279.

12 Grijalva, *Crónica de la orden de N. P. S. Agustín en. . . Nueva España* 2nd. edition, Mexico: 1924, p. 273. Romero, *Noticias. . . del obispado de Michoacán*, Mexico: 1862, p. 63. gives 1565.

13 Basalenque, *Historia de la provincia de S. Nicolás de Tolentino de Michoacán*, Mexico: 1673, p. 69.

14 Efforts had already been made to restrict the duration of building operations elsewhere in New Spain. See Ricard, *La 'conquête spirituelle' du Mexique*, Paris: 1933, p. 100.

15 Basalenque, *op. cit.*, p. 70. Ricard, *op. cit.*, pp. 205-6. The church at Ucareo was not built until the end of the sixteenth century. Before that time, masses were said in a *jacal* near the *convento*. Basalenque, *op. cit.*, pp. 70, 124, 147. At the present time the *convento* remains intact only on the ground floor. The upper story has been destroyed, and many rooms of the ground floor no longer exist, although the water tank is still in use.

16 Biographical notes on Fray Alonso are found in Basalenque, *op. cit.*, pp. 35-39; García Icazbalceta, *Obras completas*, vol. III, p. 46. Information on his Spanish voyage is in Escobar, *American Thebaida*, Mexico: 1924, p. 337.

17 The document was published by R. Ricard, 'Fray Alonso de la Vera Cruz. *Un documento desconocido en México*', *Abside*, II (1938), Nº 1, pp. 22-4. ". . . Por la satisfacción que tenemos de las letras, suficiencia, bondad y recogimiento del Maestro Fray Alonso de la Vera Cruz, prior del monasterio de San Felipe desta villa de Madrid, e inteligencia que tiene de las cosas de aquellas partes del tiempo que residió

en la Nueva España, nos ha parecido les hera bien y podrá informar de cosas espirituales de aquellas partes... asi os ruego... le nombrar y señalar por procurador y comisario general de los conventos de vuestra Orden de las dichas nuestras Yndias, para que resida de ordinario en esta nuestra Corte en los negocios tocantes a ellos..." Philip II to the General of the Augustinian Order, October 27, 1571, at Madrid.

18 Grijalva, *op. cit.*, p. 271.

19 Palladio, *I quattro libri dell'architettura*, Venice: 1570. The catalogue of Herrera's library is printed in Ruiz de Arcaute, *op. cit.*, p. 150.

20 Villalpando, F. de, *In Ezechielem explanationes*..., Rome: 1596-1604.

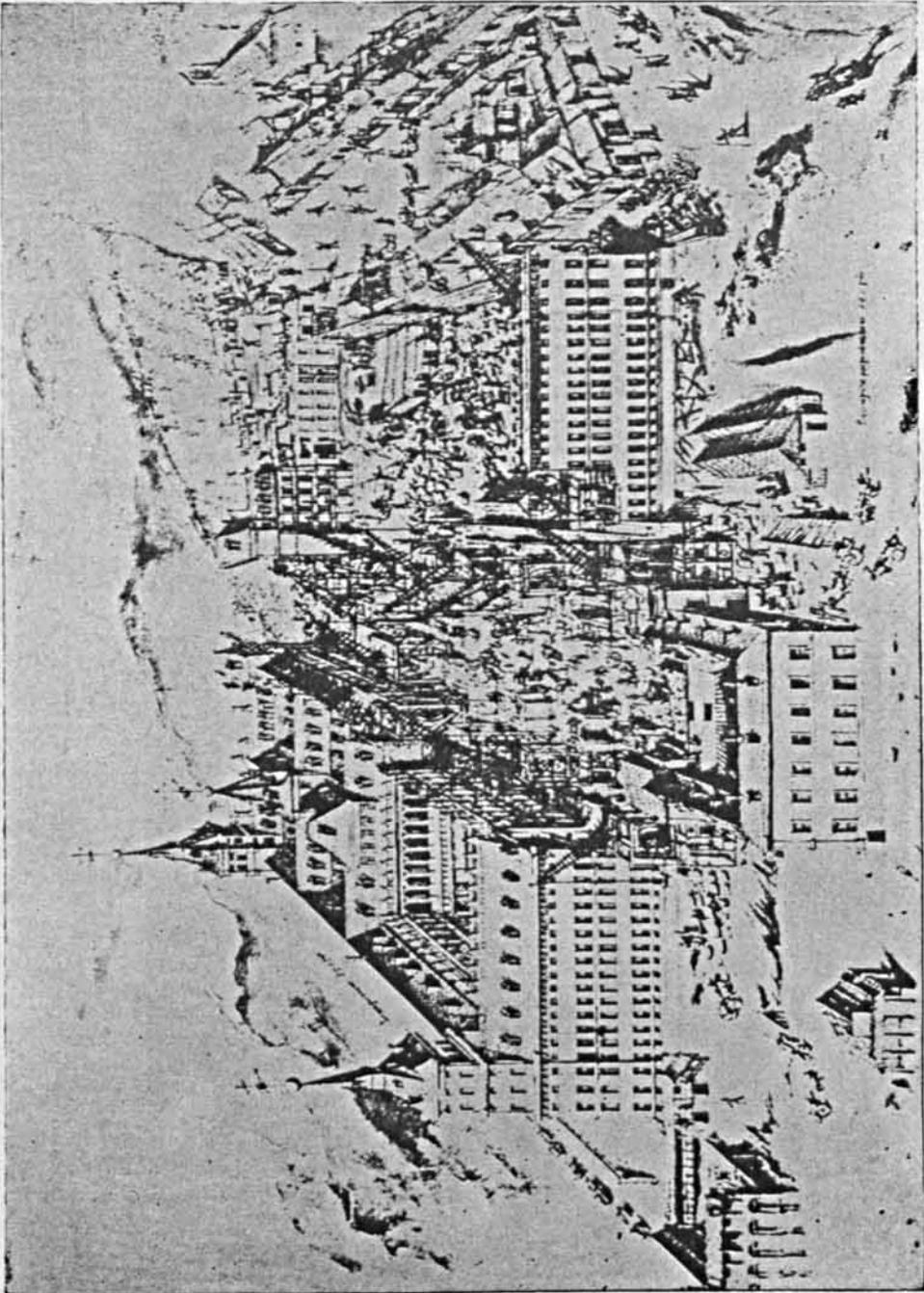


Fig. 1. The Escorial in construction. c. 1580  
From: Ruiz de Arcaute, Juan de Herrera, Madrid, 1936

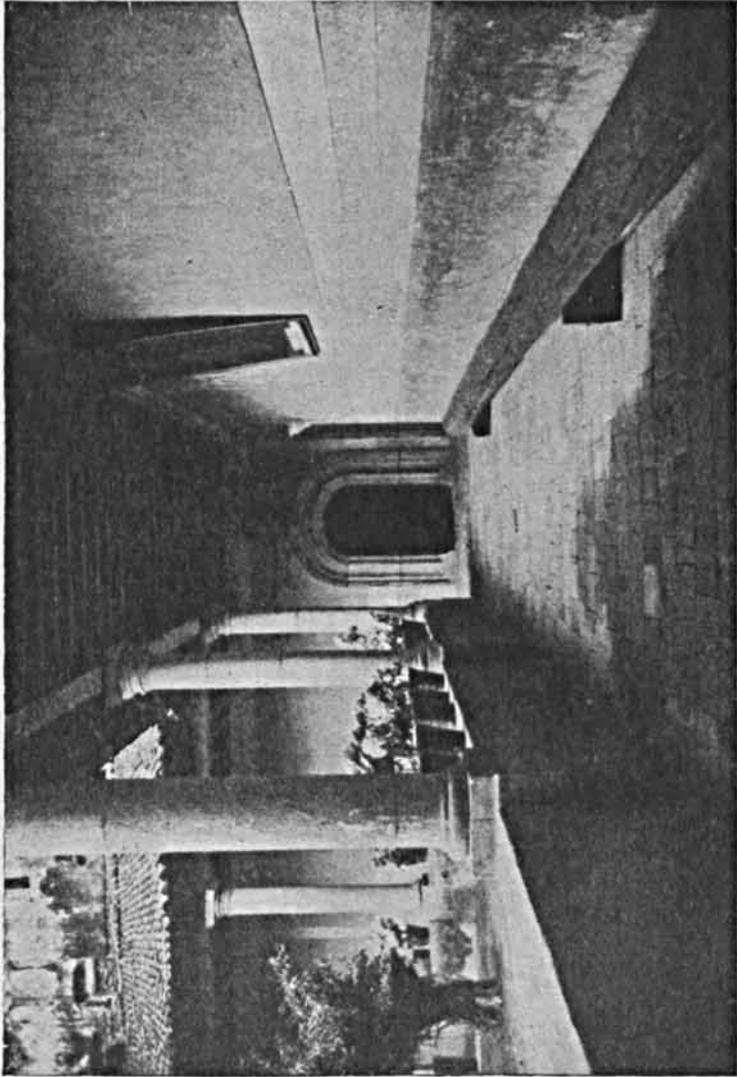


Fig. 2. Cloister walk looking west to *portería*. (Photo G. Kubler).<sup>4</sup>

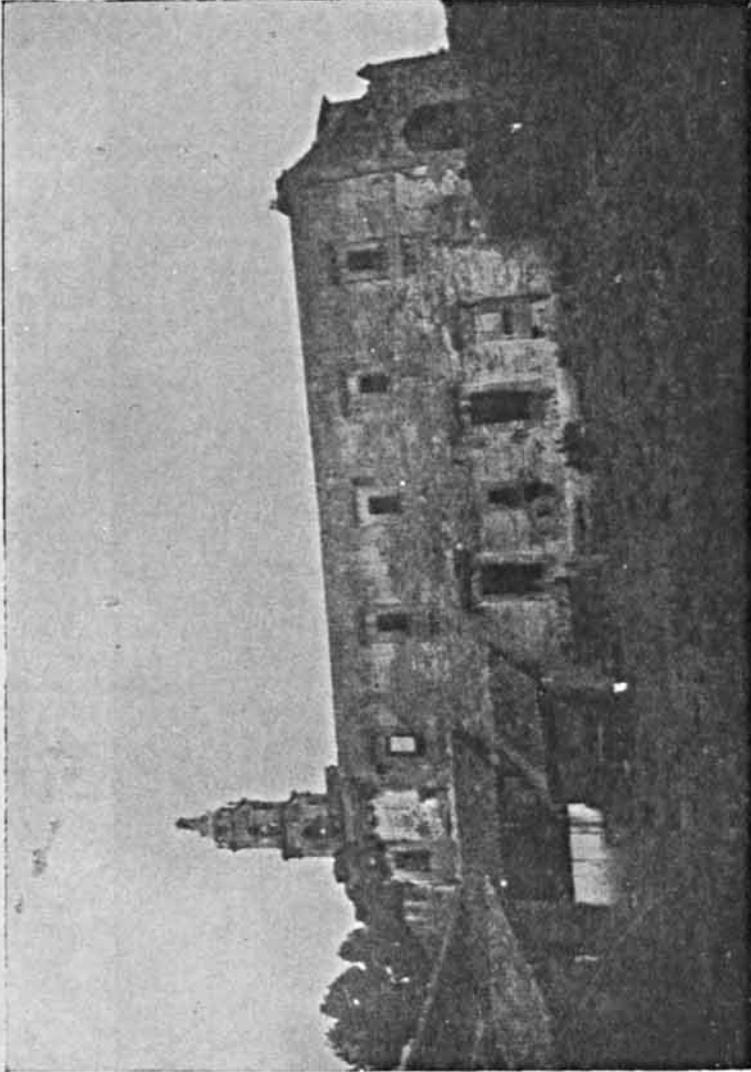
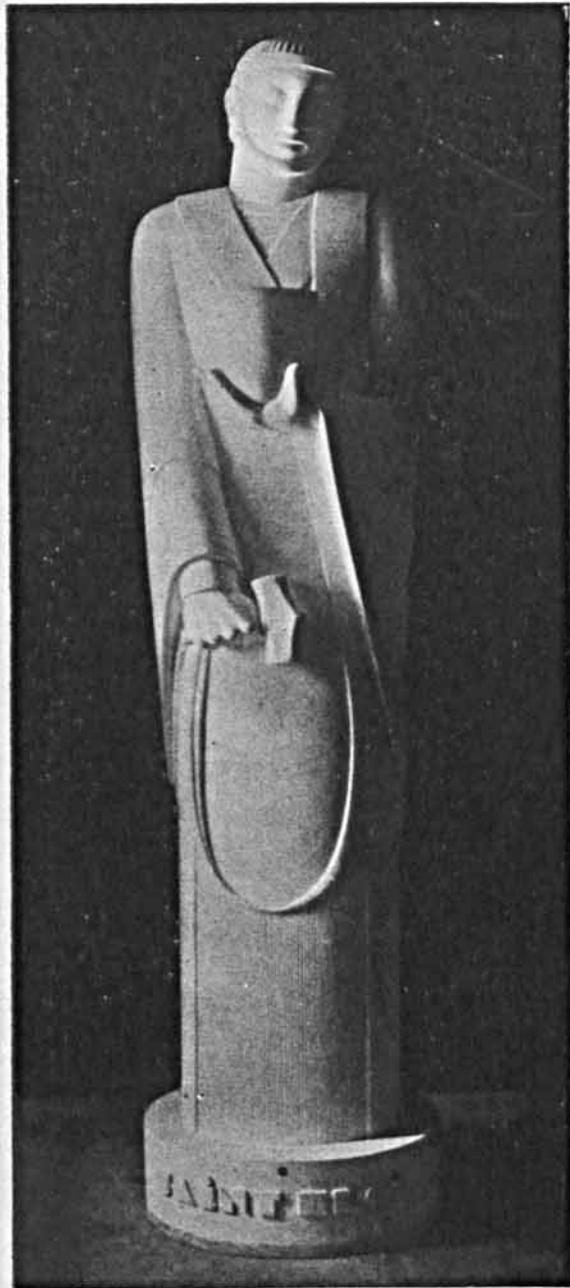


Fig. 3. Ucareo contento from south. (Photo G. Kubler).



San Eligio, patrón de los plateros.  
Obra de J. E. Puigforcat