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The Calatagan Excavations Two 15th Century Burial Sites in Batangas, Philippines

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The Calatagan Excavations

Two 15th Century Burial Sites in Batangas, Philippines



by

ROBERT B. FOX

EDITOR'S PREFACE

It had been the original intention to publish as comprehensive a report as possible on the Calatagán excavations, presenting not only the data but also the conclusions and speculations that the data might seem to warrant, with statistical tables and graphs and with detailed technical descriptions of the grave furniture found. This plan has been partially carried out in order to make the data available to experts and the general reader, at the same time leaving room for more detailed technical studies to be published later in this or in other journals. I wish to express gratitude to the Asia Foundation and their Manila representative, Mr. L. A. Wilson, for financing the publication of the photographs; to the USIS for the two plates in color; to Mr. Hilarion Flores and the staff of the National Printing Co., Inc. for technical assistance of the most generous kind; to Mr. Ephraim S. Caedo for helping me with the photographs and the lay-out; to Dr. and Mrs. Fox for great patience in tolerating much editorial persistence; finally, to my kind friends: Mr. John Reed of the Asia Foundation, the then British ambassador, Mr. George Lisle Clutton, and above all Don Fernando Zóbel de Ayala, without whom this article could not have been published in this Quarterly.

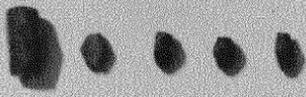
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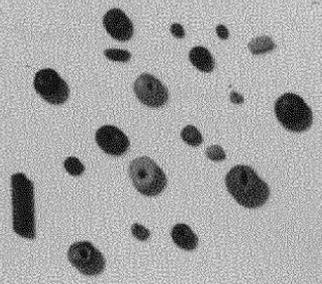
Plate A: Early Ming, late 14th or early 15th century, figurine vessels of a light stoneware in four colors (apple-green, mauve, yellow ochre, and cream); probably an attempt to reproduce Tang potteries. The height of the crane, including stopper, is twenty-two centimeters; of the sitting pair of ducks with necks entwined, thirteen centimeters. The bases are unglazed. The crane is found in the collection of Alfonso Zóbel; the ducks, in that of Fernando Zóbel.

Plate B: Beads, Bracelets, and Gold Objects

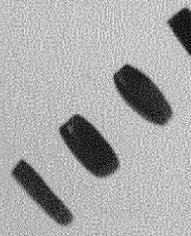
- A. Faceted cobalt-blue glass trade beads.
- B. Various shapes and colors of typical glass beads recovered in the graves.
- C. Stone beads, carnelian and one rock-crystal, which Professor Beyer first associates with Philippine "Stone Age" or early "Iron-Age" sites, about 2,000 years ago.
- D. The larger bead is a Chinese copy in porcelain with a veneer design of a Greek bead; the smaller bead is a "Western Import" common in 14th and 15th century Philippine and Bornean sites.
- E. Flat and tubular jade beads usually associated with "Late Neolithic" sites.
- G. Various sizes of bright yellow beads; the smaller ones are glass; the large bead, an opaque glass paste.
- H. Gold ornaments and beads; the gold-leaf objects were probably facings for wooden ornaments.
- I. The three blue bracelets (one appears white due to a heavy white patina) are made of an opaque glass paste and are probably from Indo-China, according to Professor Beyer. They first appeared in the Philippines associated with early Sung porcelains and Cambodian potteries.
- J. White and white-and-black banded beads.
- K. Translucent green glass bracelets made in the Philippines.
- L. Clear, green and white beads of irregular forms which are characteristically associated with porcelain sites.



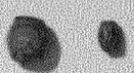
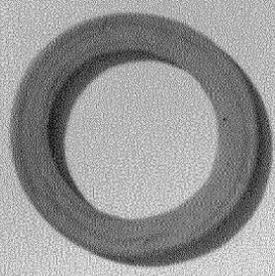
A



B



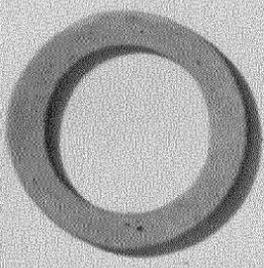
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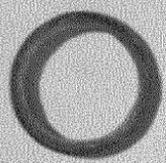


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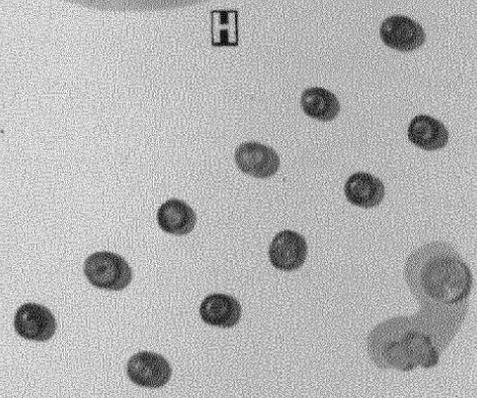
I



J



K



The Calatagan Excavations

ROBERT B. FOX

HUNDREDS of years before Magellan "discovered" the Philippines, merchants from the mainland of Asia sailed their sturdy junks into the Philippine seas to barter metals, silk and cotton cloth and particularly pottery, for Filipino products extracted from the land, sea and forest. These Filipino products included many species of hard woods, cotton, indigo, gold, pearls and food stuffs. Though no report for a Philippine site containing trade pottery has been published, porcelain and stoneware collections made in the Philippines, notably those of Professor H. Otley Beyer and Evett D. Hester, demonstrate that trade with the mainland began as early as the 10th century A.D., during the T'ang Period (618-907), reaching a climax in the 15th century during the reign of the early Ming emperors. In the early Ming Period, thousands of porcelain and stoneware from kilns in South China were brought into the Archipelago. As will be seen, extensive trade was also carried on in the late 14th and early to mid-15th centuries with pottery which was made in Siam (Thailand), notably at Sawankhalok, and Annam (Indo-China).¹

Pigafetta, the chronicler of Magellan, noted in 1521 that many porcelain dishes as well as large jars in which rice wine

¹ Cf. H. Otley Beyer's "Early History of Philippine Relations with Foreign Countries, especially China," printed as an "Historical Introduction" to E. Arsenio Manuel's *Chinese Elements in the Tagalog Language* (Manila 1948).

was placed were being utilized by Filipino leaders on the islands of Leyte and Cebu.² In 1570, Salcedo seized two Chinese ships off the Island of Mindoro, an island within sight of the Calatagan burial sites. He wrote:

The soldiers searched the cabins in which the Chinese kept their most valuable goods, and there they found silk, both woven and in skeins, gold thread, musk, gilded porcelain bowls, pieces of cotton cloth, gilded water jugs, and other curious articles, although not in a large quantity considering the size of the ships. *The decks of the vessels were full of earthen jars and crockery, large porcelain vases, plates and bowls, and some fine porcelain jars...*³

It is noteworthy that this incident occurred only about seventy years after the burial and habitation sites excavated at Calatagan were utilized.

The excavations of the burial sites at Calatagan vividly reillustrate the intensity of the pottery-trade with China, Annam and Siam. The 505 Filipino graves opened yielded 521 porcelains and stonewares from China, Annam or Siam, as well as hundreds of other artifacts. Moreover, as a result of plowing and casual digging by the owners of the property in which the burial sites are found, prior and subsequent to the excavations carried on by the Museum staff, an even larger number of trade potteries were obtained. These were bought by the writer and added to the total collection. Thus, approximately 1200 whole or restorable trade potteries have been available for preliminary study. With the exception of one Sung stoneware jar, possibly an heirloom, all of the Chinese pottery recovered in the graves has been dated by Professor Beyer as belonging to the period from the late Yuan Dynasty (1280-1368) to the end of the 15th century or early Ming, embracing what Beyer has called the "transition period" in which decorations in cobalt blue or copper red under the glaze equal, then replace the characteristic early Ming monochromes or single-color glazes.⁴

² James A. Robertson. *Magellan's Voyage Around the World by Antonio Pigafetta* (Cleveland 1906) Vol. II. Cf. also Fay-Cooper Cole *Chinese Pottery in the Philippines* (Field Museum Publication 162, Chicago 1912).

³ E. H. Blair and J. A. Robertson *The Philippine Islands: 1493-1898* (Cleveland 1903-1909) II 75f. Italics added.

As the Chinese, Annamese and Siamese potteries were *found in association* in single graves, this large collection when thoroughly studied will provide new data on the types of trade potteries reaching the Philippines in the late 14th and 15th centuries.

This is a preliminary report, for in addition to porcelains and stonewares, an enormous quantity of other cultural materials used as "grave furniture" was excavated—hundreds of whole and restorable Filipino-made earthenware, hundreds of beads, a few of which are probably of Greek origin, many other ornaments of glass, brass and copper, and numerous well preserved iron tools. It is a formidable assemblage of artifacts, and a final report will require many more months of study and analysis, as well as the help of specialists.

Moreover, due largely to the rarity of published site reports for this area and to the inaccessibility of library facilities and manuscript data, the writer has not attempted any systematic comparison of the materials recovered at Calatagan with those found in other "porcelain sites" elsewhere in the Philippines and Southeast Asia. This will be another future task.

The writer feels, nevertheless, that a preliminary report is justified. First, to stimulate interest in the opportunity for intensive archaeological work in the Philippines. Secondly, to provide some introductory data for comparative purposes which will provoke criticism and an exchange of data valuable for preparing the final report. To this end, an attempt has been made to illustrate as fully as possible the range of porcelains, stoneware, earthenware and other artifacts recovered at Calatagan.

ACKNOWLEDGMENTS

The excavations of the burial sites at Calatagan from 1 February until 20 May 1958, were made possible wholly

⁴ Walter Robb "New Data on Chinese and Siamese Ceramic Wares of the 14th and 15th Centuries" *Philippine Magazine* XXVII, Nos. 3 & 4 (August and September 1930) (based on the field and laboratory notes of H. Otley Beyer).

through a generous grant-in-aid to the National Museum of the Philippines by members of the Zóbel y Ayala family—Messrs. Alfonso, Enrique, and Fernando Zóbel and J. R. McMicking. The land on which the sites are found was formerly part of Hacienda de Calatagán which was first acquired by the family in 1829 and remained with the family until 1957 when the land was divided and sold to former tenants. Understandably, the Zóbel family has had an intense interest in the history and prehistory of Calatagán; and, when the present owners of the land began to recover from shallow graves a large quantity of porcelain and other artifacts, the family felt that systematic excavations should be carried on by the Museum staff. Subsequently, an agreement was made between the National Museum and the Zóbel family to excavate the sites, the Museum furnishing the technical personnel and the family all field expenses. It was further agreed that a representative collection of porcelain would be retained by the Zóbel.

It is impossible to overemphasize the generosity and cooperation which the Zóbel family extended during and after the excavations. The writer and the Museum staff wish to express their deepest gratitude.

The field team is also indebted to the present owners of the property on which the sites are found—Messrs. Marcelo and Paulino Perado. These brothers, their sons, sons-in-law and relatives labored daily in the hot sun to move tons of earth, and always displayed enthusiasm and good humor. In addition, the field team was extremely fortunate in having a volunteer member, Mr. Roger Keyes. This young man spent nearly two months at the dig helping to supervise the excavations, to catalogue specimens and to search for other sites.

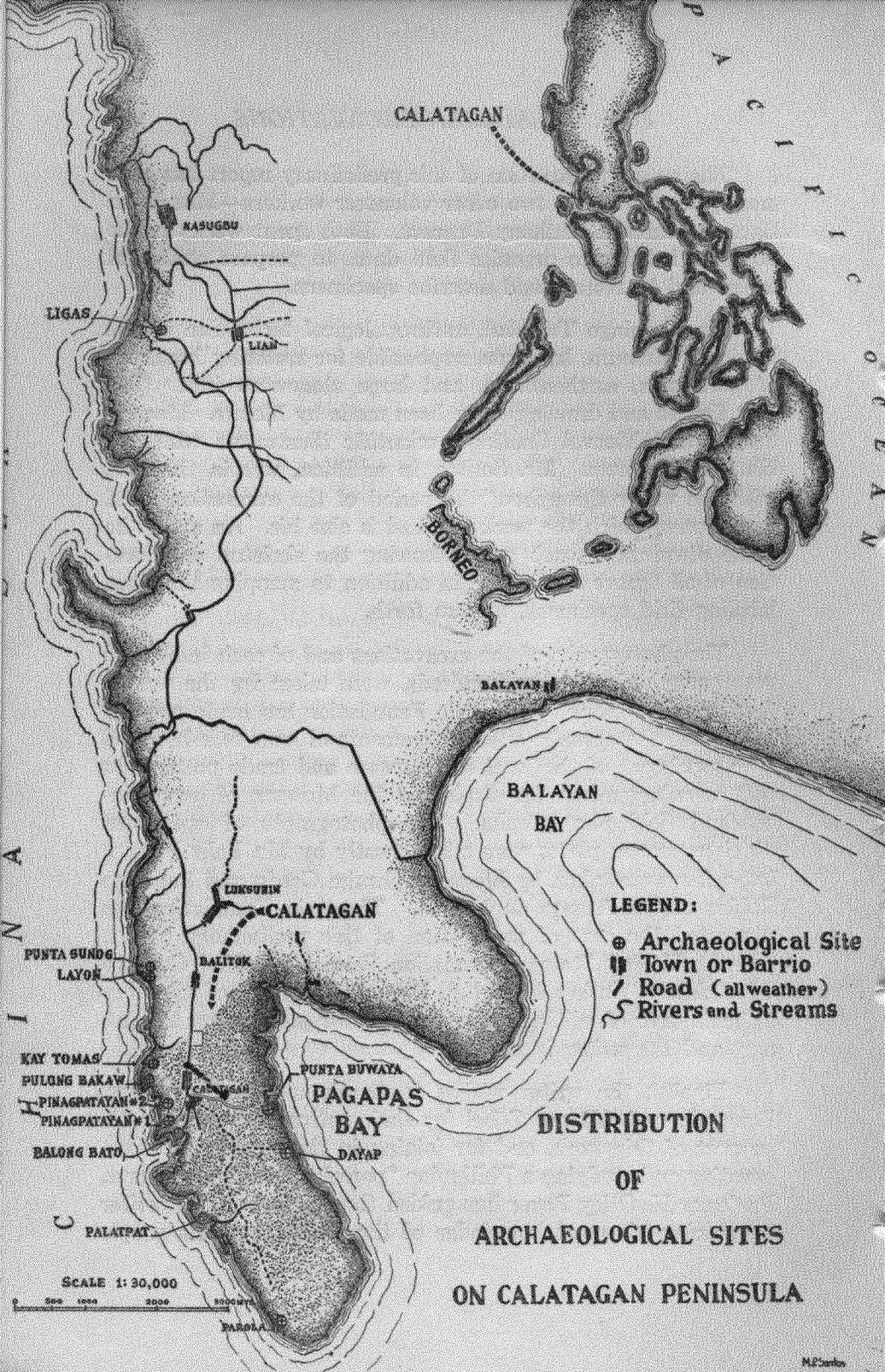
Valuable professional advice was provided by two visiting archaeologists, Dr. Anthony Christie of London University and Mr. Daniel Scheans of the University of Oregon. Mr. Scheans spent a number of weeks in Calatagán and later in the Museum began a thorough study of the earthenware which will provide material for future publication.

The actual preparation of this preliminary report has been greatly facilitated by two other volunteer workers—Miss Ellen Bartlett and Mr. Anthony Bennett. Both spent weeks in the Museum helping to organize field data, to prepare statistical tables and to restore and describe specimens.

Mr. Domingo Trinidad, anthropological technician of the National Museum, has been responsible for restoring hundreds of porcelains, earthenwares, and large stoneware jars. The text figures and drawings have been made by Messrs. Macario Santos and Manuel Santiago, scientific illustrators with the National Museum. Mr. Santos, in addition, was in the field with the writer throughout the period of the excavations, and any success which the work has had is also his. An artist, he made drawings of each grave showing the skeleton and location of all "grave furniture," in addition to mapping the sites, labeling field specimens, and so forth.

The photographs of the excavations and of each individual grave, numbering in the hundreds, were taken by the writer. A subsequent grant by the Asia Foundation has made possible individual photographs and enlargements of over four-hundred type specimens of the local earthenware and trade pottery, as well as enlargements for display in the Museum of over one-hundred field photographs. The photographs of specimens which appear as plates were taken mostly by Mr. Felix Pineda, but a few were taken by Messrs. Ephraim Caedo and Santiago Robles of the Ateneo de Manila. The Asia Foundation has supported the cost of publication of this preliminary report, and the United States Information Service provided the two color plates. Father Miguel A. Bernad S.J. has had the very difficult task of editing and preparing for publication this report and the writer is grateful.

Finally, the writer wishes to thank specifically Messrs. Fernando and Alfonso Zóbel for their active and enthusiastic support of this work, and for joining in the experience of excavating and studying a Philippine "porcelain site." As always, Professor H. Otley Beyer has guided the research of the writer by sharing his great knowledge of the Philippines—its people



CALATAGAN

NASUGBU

LIGAS

LIAN

BORNEO

BALAYAN

BALAYAN BAY

LUKUBIN

CALATAGAN

PUNTA SUNDG
LAYON

BALITOK

LEGEND:

- ⊙ Archaeological Site
- ⊞ Town or Barrio
- Road (allweather)
- ~ Rivers and Streams

KAY TOMAS
PULONG BAKAW
PINAGPATAYAN #2
PINAGPATAYAN #1
BALONG BATO

PUNTA BUWATA
PAGAPAS BAY
DAYAP

DISTRIBUTION
OF

ARCHAEOLOGICAL SITES
ON CALATAGAN PENINSULA

SCALE 1:30,000



and their history. The writer is, however, wholly responsible for the tentative conclusions about the Calatagán materials which are presented in this preliminary report.

THE CALATAGAN SITES

The peninsula of Calatagan lies approximately one hundred kilometers south of Manila in the Province of Batangas. It is bordered on the west by the South China Sea, specifically by the protected Verde Island Passage separating the islands of Mindoro and Luzon, and on the east by the bays of Pagapas and Balayan. The modern town of Calatagan, seat of the Municipal Government since 1914, is exactly one hundred and twenty-six kilometers by road south of Manila, and most of the sites discovered during the extensive reconnaissance of the peninsula lie within a few kilometers of this town (see Map.)

The peninsula averages about four and one-half kilometers in width. It is relatively low, the highest hill being less than four hundred feet in elevation. The portion of the peninsula which is south of the town of Calatagan is broken and rugged. Only three relatively small sites were found in this area. In contrast around and slightly north of the town of Calatagan, the land is rolling and comparatively good for agriculture. All of the major sites found during the reconnaissance were within this latter region.

The entire peninsula, excluding the rugged southern tip, is surrounded by broad reefs, and there are only two channels in the central part of the peninsula which allow easy access to land by small boats. The channel on the west side is located at Balong Bato where a large site was also found. The four largest sites on the peninsula (Pinagpatayan #1 and #2, Pulung Bakaw and Kay Tomas) are nearby. Another large habitation-burial site (Punta Buaya) is found on a bluff above the channel on the eastern side. The presence of these channels may provide a further explanation for the concentration of sites in the central area of the peninsula.

The extensive reefs near the major sites—in some places reaching one kilometer in width—were an important source of

protein during the pre-Spanish period. Great quantities of edible sea shells were found in the middens of the habitation sites, as well as the bones of species of reef fish.

In the past, throughout the Philippines, the movements of people and trade were largely by water. This was the pattern at Calatagan (a road did not reach the peninsula until 1926). Moreover, historical records show that there was marked inter-village hostility in the western Batangas area during the 16th century (and, we may assume, earlier) as well as head-taking, which would have inhibited overland trade. The great number of porcelains recovered in the burial sites would suggest that there was direct Chinese trade by water into Calatagan. As noted, Salcedo and Goiti in the 16th century encountered a number of Chinese junks trading in nearby Mindoro and the Balayan Bay area. The distribution of the sites also suggest that the pre-Spanish trade might have centered at Balong Bato where the major channel through the reef is found.

Up to the end of World War II, the part of the peninsula south of the town of Calatagan was covered by forest. This area had been used for many years by the Roxas and Zóbel families as a hunting ground, for it was abundant with wild pigs and deer. The area around and north of the town of Calatagan was opened earlier by Don Domingo Roxas, sometime between 1829 and 1843. Nevertheless, when this area was intensively developed by Don Pedro P. Roxas at the turn of the century and by Don Antonio R. Roxas in 1910, forests still covered the land where the major archaeological sites are found. In 1900, according to Don Alfonso Zóbel, there were less than 200 people in this area, that is, in the area embracing the present town of Calatagan and the sites. It now has a large population (1,852 people, according to the 1948 census), but the people are mostly immigrants from municipalities in western Batangas who were attracted to Calatagan, beginning 1916 when the sugar central was opened.

Considering the size and number of the pre-Spanish sites, it would appear that the population of central Calatagan was larger in the 15th century than in 1900, and there was no con-

tinuity between the pre-Spanish people and the present-day inhabitants. Although there are old families in Calatagan, no 16th or 17th century sites have been found or other evidences of continuous habitation in the central area. The extensive secondary forest cover persisted, as noted, up to 1900 and later.

Following the excavations, Macario Santos collected eighty-seven of the trees and bushes which form the present forest-cover. These were taken from a "virgin" area and included the typical species. Approximately 64 per cent of these plants are characteristic second-growth types.⁴ This would imply that the primary forest had once been cleared by intensive slash-and-burn agriculture, the area abandoned generally, and then reforested with second-growth plants. There is no evidence, as noted, that the forests were removed in recent times by the modern population. The writer is of the opinion that the forests were cleared in the pre-Spanish period by the people who left the habitation and burial sites.

During most of the year Calatagan is extremely dry and hot. The rains accompany the southwestern trade-winds in late June, July, August and early September. There are no large rivers and water for drinking purposes and household use is obtained from wells.

THE AGE AND RELATIONSHIPS OF THE SITES

Archaeological reconnaissance throughout the peninsula has revealed to date eleven major burial or habitation-burial sites, and a number of minor sites (see Fig. 1). All of the large sites are along the coast, invariably found on or near points of land which jut into the sea. Besides the excavations at Pulong Bakaw and Kay Tomas, in which 505 graves were opened, the Museum team also dug six test squares in the middens at Punta Buaya for quantitative analysis. Later, on weekends, the writer excavated 44 graves in a limited part of another large site, Pinagpatayan #2. In 1959 at least 60 graves were un-

⁴ The plants were identified and their habitat analyzed by Mr. Demitrio Mendoza, botanist and acting director of the National Museum. Of the identifiable plants, fifty-three are characteristic second-growth, fifteen primary, and fifteen found in both types of forests.

covered at Punta Buaya when workmen were digging the foundations of a house and grading a road.

The assemblage of the local and trade pottery, as well as other artifacts from these four sites is identical, and although the following treatment will deal specifically with the two sites excavated by the Museum team, the preliminary conclusions are applicable to the other two sites. As will be seen, Pulung Bakaw and Kay Tomas are primarily large burial sites, midden areas being rare, whereas Punta Buaya and Pinagpatayan #2 have sizable midden areas contiguous with the graves, and may be described as habitation-burial sites. Sherd collections were obtained from all of the other sites, and their analysis shows the same range of trade pottery and local earthenware.

Thus, all of the Calatagan sites discovered to date fall into the same general time period. Significantly, no sites with trade pottery of Sung date (960-1279) have been discovered, nor sites with the diagnostic pottery of the 16th century, such as Chia Ching (1522-1566) and Wan Li (1573-1619). All of the sites, therefore, may be dated as falling into the period between the late 14th century and the end of the 15th century or the early part of the 16th century. Pulung Bakaw and Kay Tomas were apparently used as burial sites throughout this period of approximately one hundred and fifty years.

PREVIOUS EXCAVATIONS AND RECOVERIES

The Calatagan sites were first reported in 1934. At that time, Mr. Antonio Pertierra, manager of Hacienda de Calatagán, and Mr. Feliciano Varela were constructing a small airfield just west of the town of Calatagan at a place known locally as Pinagpatayan ("massacre" in Tagalog, suggesting that skeletons had been found there by local inhabitants prior to 1934), and the tractor being used cut into many graves containing porcelains and other artifacts. They informed Don Enrique Zóbel of the finds and he immediately contacted Dr. Eduardo Quisumbing, Director of the National Museum, apprising him of the discovery. Dr. Quisumbing assigned Mr. Ricardo Galang of the Anthropology Division to accomplish a

survey of the site. Mr. Galang spent the months of February and March 1934 with the construction team which continued to expose many graves. In all approximately 1,000 whole or broken trade potteries were recovered. Unfortunately, almost all of the specimens which were donated by Don Enrique to the National Museum, as well as those retained by the Zóbel family, were destroyed during World War II.

The records of the donations in the Museum indicate, however, that the trade pottery and other artifacts recovered in 1934 are similar in type to those excavated at Pulung Bakaw and Kay Tomas. One unique item, not found in 1958, was a Chinese coin of Ming date.⁵ However, another Chinese coin has recently been found at Layon (June 1959) which the Jesuit Fathers of Chabanel Hall, Quezon City, have identified as belonging to the reign of the first Ming emperor, Hung Wu (1368-98).

The first systematic excavations in the Calatagan sites were made in 1940 by Professor Olov A. T. Janse, the work being sponsored by Harvard University. References to the results of the excavations may be found in three papers of Professor Janse,⁶ and a critical review of statements made by Janse about Philippine Archaeology generally and Calatagan specifically has been published by Professor H. Otley Beyer.⁷

Professor Janse's preliminary conclusions as to the age of the burial sites at Pulung Bakaw and Kay Tomas are in error. He was apparently not familiar with Chinese trade pottery of

⁵ A brief and popular description of the results of the archaeological work in 1934, including illustrations of the coins, bracelets, and potteries, was published by Dr. J. B. Bantug "Tesoros Arqueológicos de Calatagan" *Excelsior*, Año XXX, No. 991, 1934.

⁶ Olov. R. T. Janse "An Archaeological Expedition to Indo-China and the Philippines" *Harvard Journal of Asiatic Studies* Vol. 6, 1941, 21 pp., 32 pls.; "Notes on Chinese Influences in the Philippines in Pre-Spanish Times" *Harvard Journal of Asiatic Studies* Vol. 8, 1944, pp. 36-42, 17 pls.; "Archaeology of the Philippine Islands" *Smithsonian Annual Report* (1946) pp. 345-360, 15 pls.

⁷ H. Otley Beyer *Supplementary Illustrations to the "Outline Review of Philippine Archaeology by Islands and Provinces"* (Manila) privately printed, 1949) pp. 11-16.

early Ming date or with Siamese wares and did not take advantage of Professor Beyer's extensive knowledge. Sherds of overglaze enamel ware which he illustrates and identifies as Wan Li (1573-1620) are, on the contrary, certainly of 15th century date.⁸ Janse's tentative conclusions would place the Calatagan sites, at least Pulung Bakaw and Kay Tomas, in the post-Spanish period. The hundreds of graves which were excavated in 1958-1959, however, did not produce a single evidence of Spanish or Western contact.

Professor Janse worked in three sites, excavating six graves at Pulung Bakaw, twenty-nine at Pinagpatayan, and thirty-one at Kay Tomas; a total of sixty-six graves.

In January 1941, Don Jacobo Zóbel donated to the National Museum two "crude stone figures" of human form which were accidentally found at the site of Palatpat. These were also destroyed during World War II. The sites excavated by the Museum team did not yield any sculpture; however, a human figure carved from brain-coral was recovered by workmen (February 1959) in a grave at Punta Buaya (see Plate 165). The figure had been placed in an upright position behind the head of the remains. This sculptured figure is of considerable interest, for although the early Spanish writers reported numerous "idols" used ritually by the Filipinos, these were usually carved from wood and few, if any, have survived.

The most recent excavations, prior to the work in 1958-59, were made by Wilhelm G. Solheim II who spent the period from December 28, 1952, through January 2, 1953, digging in two sites, Punta Sunog and Layon, west of the village of Balitok. Although he was not able to find any graves, some have been uncovered by the owners of the land as a result of plowing and well-digging. However, approximately 4,000 sherds of Chinese, Siamese, and Annamese porcelain and stoneware were gathered from test trenches. These have been identified by Professor Beyer as belonging to the 14th and 15th centuries, and are of the same range and types of wares recovered by the Museum staff in the other sites.

⁸Olov R. T. Janse "Archaeology of the Philippine Islands" *Smithsonian Annual Report* (1946) pp. 353 and 360, and Plate. 14.

PULUNG BAKAW AND KAY TOMAS

The two large burial sites excavated by the Museum team lie west of the town of Calatagan on narrow tongues of land which project into the South China Sea. They have been aptly described as "Cemeteries by the Sea." Each is bordered at present by fishponds in which the milkfish or *bangus* is raised, as well as by stands of mangrove trees which disguise the original forms of the points.

Pulung Bakaw is remarkably narrow and low (see Fig. 2) with a maximum elevation of less than two meters above the high-water mark. As the owner of the land confines himself to fishing, salt beds, and fishpond culture, he has cultivated the point only once during World War II. Hence, when the excavations began in 1958, most of the point was covered with a stand of the thorny *aroma* tree (*Acasia farnesiana* (Linn.) Willd.) common along the shores of Calatagan. The site was relatively undisturbed.

The portions of Kay Tomas which were excavated surround a small knoll which is covered with exposed dead coral and has a maximum elevation of slightly over four meters (see Fig. 3). The cemetery also continues onto the narrow point, as at Pulung Bakaw, where the elevation is approximately two meters. The heaviest concentration of graves was found on the slopes of this knoll. As will be seen, the entire burial site at Kay Tomas has been cultivated for many years, and innumerable shallow graves and their contents have been destroyed by plowing.

The base level of both sites is formed by dead coral, varying in depth, but usually less than one meter. Due to erosion, this coral base is frequently much shallower, accounting for the large number of relatively shallow graves. At Pulung Bakaw, 94 per cent of the graves were less than 50 cm. in depth; at Kay Tomas, 83 per cent. As the graves were shallow, it was possible for the Museum team to recover a large number in a short time.

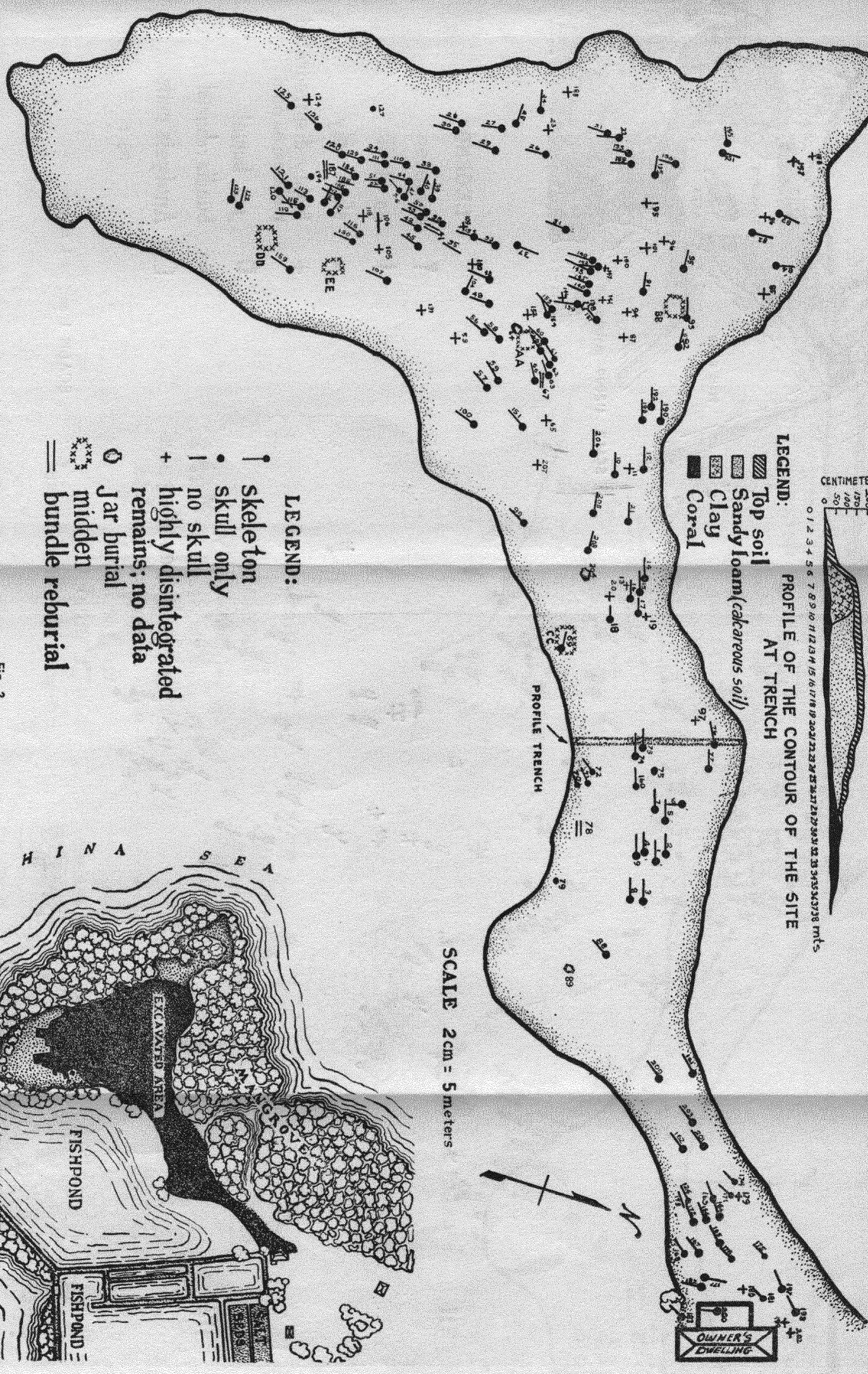
Except for a thin layer of top soil (averaging from 15 to 25 cm.) the body of the soil in both sites is calcareous—a soil

composed of disintegrated coral and fine sand with a high lime content. Consequently, the preservation of the skeletons and cultural materials, such as iron, was phenomenal (see Plates 1-21, 162-164).

A calcareous soil mixed with clay had also formed in limited areas of both sites which greatly facilitated the identification of the graves. It was merely necessary to remove the shallow top soil and scrape the "clay" in order to establish the graves. The marked distinction between the color of the grave-fill and the "clay" was readily discernible, and provided an outline of the graves as well as other cultural features, such as caches adjacent to the graves and post-holes which apparently supported superstructures over the graves (see Plate 2). As some of the graves had been dug during wet weather when the "clay" was relatively soft, the marks of the digging implement used could be seen on the sides of the grave. A spade-like implement was later found as "grave-furniture" which fitted these marks perfectly. The land on which these two sites is located, as well as Pinagpatayan #2, is presently owned by a group of siblings who moved from Pangasinan to Calatagan in the mid-1920's.⁹

⁹According to Paulino Perado, the owner of Kay Tomas, the burial site and surrounding area was covered by forest when he first came to Calatagan in 1924. At that time, he began to cut down and burn the trees and bushes, shifting his planting area every three years. He noticed some sherds of porcelains, stonewares, and earthenwares. It was not until 1937, however, when he began to plow the fields (usually twice annually for the successive crops of corn and rice), that he became aware of the fact that his field was over a *libingan* or "cemetery." According to Paulino (the events of 1958 would substantiate his words), every year, since 1937, he has plowed up dozens of bowls, plates, and jars. He either threw these away, gave them to his children, or used them in his house until they were broken. The writer has on a number of instances, the first time in 1956, recovered fine Ming bowls and plates from the homes of Paulino and Marcelo Perado which were being used for containers and for eating. (Few families have had a ready source of 14th and 15th century Ming for everyday domestic use.) He gave the large Ming and Siamese stoneware, jars, as well as sherds, to his brother, Marcelo, who has used them to pave his salt beds; the latter argues that the fragments of stoneware are superior to red tile for evaporating the salt. Pulung Bakaw, according to Marcelo Perado, was first cleared by him in 1942, when he planted a crop of *mongo* beans. While plowing, prior to planting, he uncovered a few trade potteries. Being a fisherman, however, he did not plant another crop, and the site was relatively undisturbed.

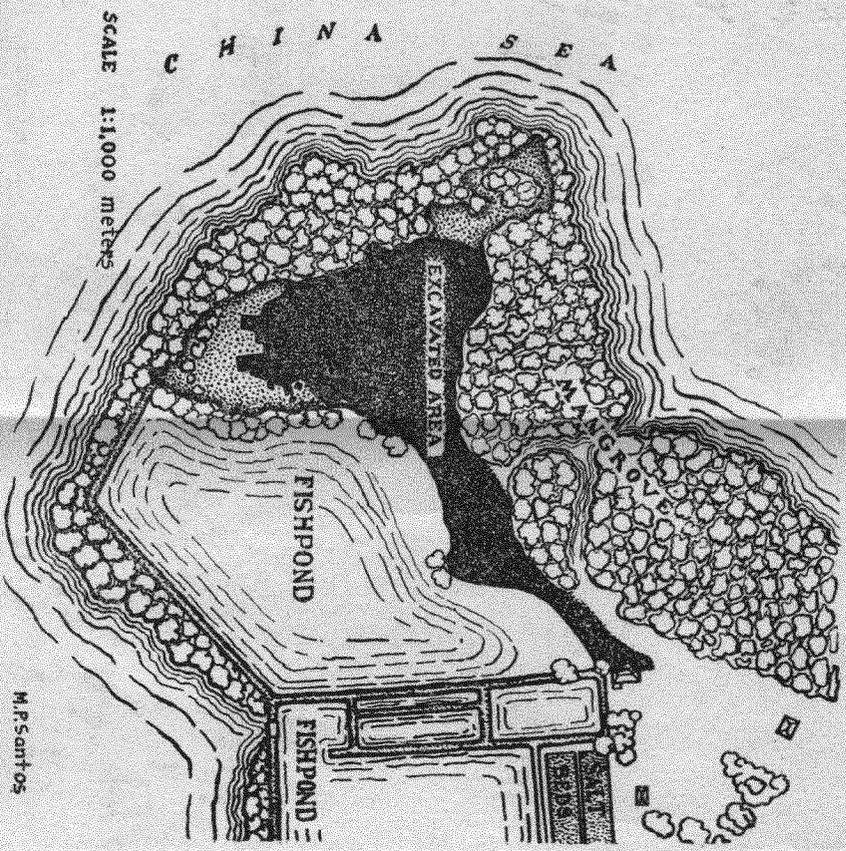
ORIENTATION OF GRAVES AT PULONG BAKAW

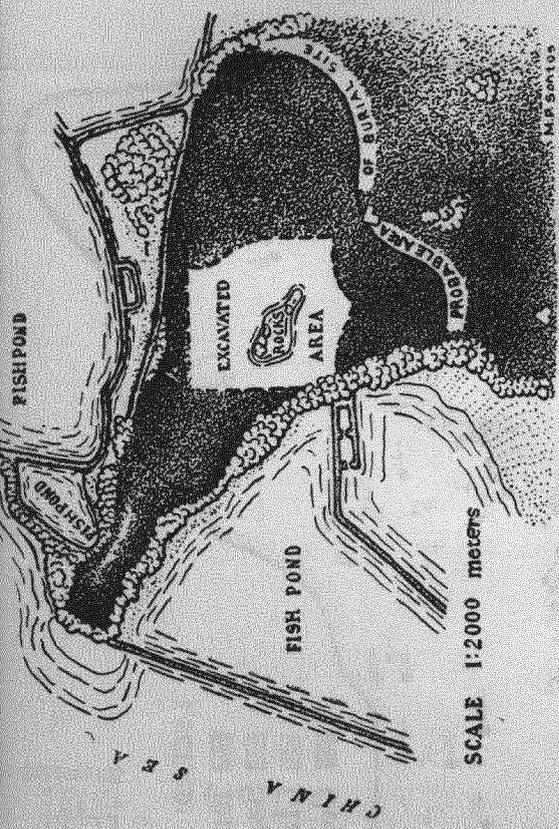


LEGEND:

- skeleton skull only
- no skull highly disintegrated remains; no data
- jar burial
- ⊗ midden
- == bundle reburial

Fig. 2





LEGEND :

- ⊥ skeleton
- no skull
- skull only
- + highly disintegrated remains; no data
- ⊙ jar burial
- = bundle reburial
- Analysis units

Fig. 3

SCALE 1 cm. = 1 meter

ORIENTATION OF GRAVES AT KAY TOMAS



SIZE OF THE BURIAL SITES

A study of the trade pottery and their association by graves suggests, as noted, that the burial sites were utilized for approximately one hundred and fifty years. It would be highly desirable, therefore, to know the exact number of graves in each site, for this data could provide some demographic information (particularly as data is available as to the age of the remains at death). Unfortunately, no reasonable figure can be obtained for Kay Tomas because of the large number of graves which have been disturbed as a result of plowing (in 1958, Paulino cut into four graves while making one furrow). Unfortunately, too, Marcelo had been digging at Pulung Bakaw for three weeks prior to the excavation by the Museum team. Although he did not keep a record of the number of graves, it was possible by counting the number of holes and by talking with Marcelo to arrive at a reasonable estimate of ninety graves. Thus, including the graves recovered by Janse, some three hundred and four graves have been dug at Pulung Bakaw. There are undoubtedly other graves remaining at the tips of the point and beneath Marcelo's dwelling. In all the writer would estimate that three hundred and fifty individuals were interred at Pulung Bakaw during the period of use, approximately one hundred and fifty years. Kay Tomas was, at least, twice as large. These are crude and minimum estimates, but when it is noted that there are six large cemeteries in the central part of the Peninsula, all within five kilometers of each other, a relatively large pre-Spanish population can be assumed.

THE BURIALS

Arrangement of the Burial Sites.—Pulung Bakaw and Kay Tomas may both be described as formal cemeteries in which the dead were systematically interred (see Figs. 2 and 3). This was also true of the burial areas of Punta Buaya and Pinagpatayan #2. At Pulung Bakaw only 12 of 208 graves were disturbed by other graves; at Kay Tomas, 9 of 297. In addition, there were only a few instances of grave stratigraphy (these instances revealed no significant differences in the associated trade potteries). As sections of both burial sites were

crowded, the implication is that there were grave markers or other signs on the surface denoting the presence of graves.

The excavations clearly revealed one type of grave marker, as well as two other means by which the people were apparently able to identify the presence of older graves. Near the surface over many graves, usually above the chest of the skeleton, giant clams (*Tridacna gigas*), chunks of brain coral, or both were placed (see Plate 4). The association of these markers with graves was quickly recognized by the workmen.

Superstructures, as noted, were also indicated by the presence of post-holes around graves. The seemingly irregular pattern of the post-holes (see Plate 19) would suggest that these superstructures were renewed, that is, new holes dug and new poles erected when the original poles were destroyed.

Some Non-Christian peoples in the Philippines still build small structures over graves. Annual rituals are performed at the graves and offerings placed on the grave beneath the structure, such as food in plates and bowls. Among the Tagbanwa of Palawan Island—a Non-Christian group who utilize formal cemeteries—gongs, ancient Chinese stoneware jars, and numerous other objects are placed on the graves in this fashion.

This suggests another means by which the pre-Spanish inhabitants at Calatagan could have known the location of older interments. At both Pulung Bakaw and Kay Tomas hundreds of sherds of earthenwares and porcelains were found on the surface. These are not midden sherds for the great quantities of sea shells which were later found to be characteristic of habitation sites in Calatagan were absent in the grave areas of these two burial sites, except in a few restricted areas (See Fig. 2). Many of these sherds, notably at Kay Tomas, are a result of plowing in which the contents of the shallower graves were broken and scattered. A further explanation for the presence of many of these sherds is that they are the fragments of vessels which had been placed on the graves to hold offerings, being destroyed in the decades which have passed (note the vessels near the surface in Plate 16). It is also possible, as Beyer suggests, that sherds were placed on the graves.

Orientation.—The orientation of the graves provides additional evidence of the formal organization of the two burial sites and reveals the fallibility of treating cultural patterns as rigid, particularly in interpreting archaeological data when there are no quantitative controls. At Pulung Bakaw, the basic orientation of the skull of the skeletons was north to east. A relatively few skeletons were oriented towards the south (the latter is incidentally the usual pattern among the contemporary peoples of Calatagan); none were buried with the head towards the west.

When the orientation of the skeletons at Pulung Bakaw is analyzed (see Fig. 2), it becomes apparent that the actual direction of interment was not determined wholly by custom but, in part, by the shape of the point of land which formed the cemetery. Thus, towards the end of the point where it is broad, the basic orientation of the graves is to the north, but as the point itself swings towards the east, and then towards the northeast, the graves follow these same directions. If only a limited area of Pulung Bakaw were excavated, say at the narrow part of the point, the conclusion would be that the orientation of graves was towards the east; if another section were dug, towards the north.¹⁰

One pattern is certain. Not a single grave at either Pulung Bakaw or Kay Tomas was oriented towards the west. This is commonly a profane direction among Philippine Non-Christian peoples.

At Kay Tomas, in contrast, the basic orientation of the skull was to the south (see Fig. 3). Though Pulung Bakaw and Kay Tomas are less than one kilometer apart and were coexisting sites, the difference in the basic orientation is not startling, at least not to the writer. Contemporary Non-Christian people living in different villages but belonging to the same cultural-linguistic group may have similar beliefs about a profane direction, but they will still bury their dead in dif-

¹⁰ The 44 graves excavated by the writer at Pinagpatayan No. 2 were oriented, without exception, to the north or northeast; however, but only a small area of the site was excavated.

ferent directions and even employ distinct interment practices. Many of the differences which arise within a limited geographical area are a result of social isolation, as when head-taking is practiced, and the centripetal character of village life.

In the past, Filipino society was highly fragmented and lacked overall political organizations which might have given greater rigidity to cultural practices. The large number of synchronous burial sites at Calatagan within a small area, as well as cultural distinctions reflected in the data, such as the differences in the basic orientation of the graves, would also imply the absence of a developed and embrasive political stucture for the area.

Age-Area and Age-Orientation Correlations.—It was hoped that significant correlations might be obtained by comparing the types of trade potteries found in graves with a specific area of each cemetery and with differences in the orientation of the skeletons, for example, in instances where all of the graves in a particular area were pointed towards the north but one grave was oriented towards the south. This study has not been completed; however, the preliminary analysis has not revealed any significant patterns. What has been judged to be older graves—graves having, for example, Chinese monochromes and Sawankhalok jarlets—are distributed throughout both cemeteries near graves which have potteries believed to be younger in date. That is, based upon the analysis to date—which however may be modified when a more thorough study of the trade potteries has been completed—the writer cannot point to any sizable area of either cemetery and say that it is clearly older than another area. There are older graves, but older grave-areas are not clearly defined.

Similarly, differences in orientation of the remains do not appear to be correlated with older or younger graves. However, further analysis is required, and patterns may emerge.

There were areas in each site which were poor in trade potteries, as when a number of contiguous graves had no porcelains or stonewares. These graves, however, usually had earthenwares which were identical in types to those found in

nearby graves which also contained trade potteries. The writer does not believe that the presence or absence of porcelains in the Calatagan sites is due to wealth distinctions or to the presence of a "chieftain class" at Calatagan. Although there were a few graves which contained five or more trade potteries (at Pulong Bakaw, 11; at Kay Tomas 7), these trade potteries were invariably of poorer quality in which it would seem that an attempt was made to offset the quality of the grave furniture with quantity.³¹ The finest trade vessels recovered were either alone in a grave or associated with a minimum of other objects. One large gold-leaf object was found in a grave at Kay Tomas which had no other grave furniture.

Among contemporary Non-Christian peoples, as in Northern Luzon, the wealthier class of people have the greatest number of fine Chinese porcelains and stonewares. However, in other areas the larger quantities of porcelains are held by religious functionaries who use them in rituals, and these persons may not be wealthy or even "upper class." Among shifting cultivators without developed political structures, as well as elaborated mechanisms for maintaining within a class the wealth that does exist (e.g., cousin marriage), the concept of social class has little meaning and wealth distinctions are rarely significant. The analysis of the relative quantity of porcelains in the many graves at Calatagan does not indicate that there was a "chieftain class" which held most of the wealth of porcelains and stonewares.

It is possible that opportunity for trading with the Chinese was the primary determinant of whether or not porcelains were placed in a grave. It is likely that deaths may have occurred within a family at a time when they had no trade potteries available for grave furniture. This would explain in part, the presence in graves of earthenwares which are exact copies of Chinese vessels.

A final factor which may preclude effective age-area and age-orientation correlations is the relatively short period of

³¹ Contemporary Non-Christian people who have and still utilize porcelain and stoneware jars for ritual purposes are very conscious of both the quality and age distinctions of the pieces.

RELATIVE NUMBER OF POTTERIES IN INDIVIDUAL GRAVES (PULUNG BAKAW AND KAY TOMAS)

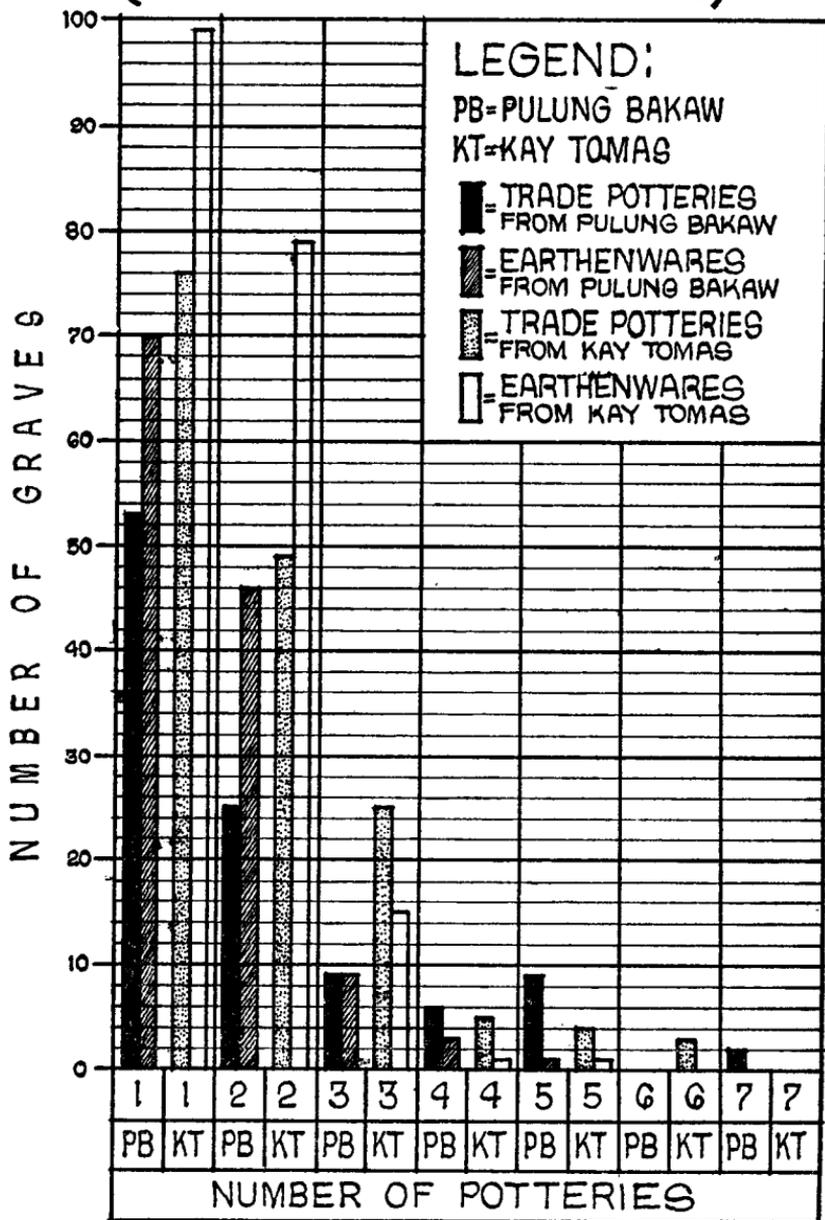


Fig. 4

time during which the burial sites were used. The maximum length of use has been estimated at one-hundred and fifty years, and it is possibly much less as suggested by the absence of significant time differences in the different areas of the sites.

Skeletal Position and Associated Date.—With two exceptions, all skeletons of adults in both cemeteries were interred in a supine position;¹² that is, lying on the back, hands along the side, and with a few exceptions, knees and/or ankles tied. Coffins were not used. The bodies were probably wrapped in highly perishable mats, but despite every effort to obtain impressions, none were found.¹³ It is also obvious that the grave furniture was placed in position (or rearranged), after the body had been placed in the grave. As shown in Plate 6, for example, two "hole-bottom" saucers were found in perfect position beneath the hands of the individual. It would have been very difficult, if not impossible, to carry a wrapped body any distance, even if well supported, without disturbing the arrangement of the grave furniture.

The majority of the other age groups (see Fig. 6) were also interred in a supine position. Nevertheless, a number of juveniles, children, and infants were placed in a semi-flexed position (see Plate 11). Actually, semi-flexed burials among infants and children may have been much higher, but the condition of these remains was generally poor, precluding accurate determinations of burial position. A few cases of multiple burials were encountered; two individuals being placed in the same grave. At both Pulung Bakaw and Kay Tomas, one grave was found which contained two adults; and in two graves in each of the sites, infants had been buried with adults. At Pulung Bakaw, two graves were excavated which contained a child together with an infant; in one of these, the infant lay

¹² At Kay Tomas one skeleton was found in a prone position, probably placed in the grave upside down, and another in a semi-flexed position.

¹³ The writer knows of no historical evidence or practices of the existing Non-Christians, of burying the dead without a coffin or wrapping of some sort.

at right angles across the chest of the child. Kay Tomas had one juvenile-child burial and one child-infant burial.

Head-Taking and Disarticulation.—Spanish sources of the 16th century note that head taking was practiced in the Balayan area. It was also practiced at Calatagan. However, careful examination of the skeletal material indicates that violence was an exception. At Pulung Bakaw, only four skeletons were excavated which were apparently the victims of head-taking; at Kay Tomas, fifteen (see Fig. 7). The skeletal material, with these exceptions, gave no evidence of internecine warfare, as Janse has suggested.¹⁴ Moreover, it is highly doubtful if any significance can be given to the Tagalog name for two of the cemeteries, *pinagpatayan*, meaning "massacre" in English. It is the writer's opinion that this term has been given to the sites in relatively recent times, not during the pre-Spanish period, as a result of modern agricultural activities which exposed many skeletons.

Spanish sources of 1570 also mention inter-village hostility in the area which is now western Batangas—the people of Balayan fighting with the inhabitants of Tulay, the Tulaysani. However, the skeletal material from Calatagan would indicate that head-taking was infrequent and probably involved vendettas, not warfare.

It is interesting to note that only adults and juveniles were found without heads (if spindle wheels are actually associated only with females, then women as well as men), and that the remains were not treated as profane and dangerous unlike some Non-Christian groups in the Philippines (e.g., the Ifugao). Of the nineteen remains in the two sites which had no heads, twelve were buried with grave furniture and eleven of these graves contained trade potteries. No unusual grave furniture was associated with the headless remains.

¹⁴ Olov R. T. Janse, "Archaeology of the Philippine Islands," *Smithsonian Institution Publication* 3883 (Washington: Government Printing Office, 1947), pp. 349-350.

ESTIMATED AGE DISTRIBUTION OF REMAINS FROM PULUNG BAKAW AND KAY TOMAS

A G E	N U M B E R	
	PULUNG BAKAW	KAY TOMAS
ADULT (17 + YRS.)	95	170
JUVENILE (11-16 YRS.)	25	35
CHILD (3-10 YRS.)	30	56
INFANT (1-2 YRS.)	8	14
NO AGE DATA	50	22

Fig. 5

CORRELATION OF AGE AND SKELETON POSITION

A G E	S U P I N E		P R O N E		S E M I - F L E X E D	
	PULUNG BAKAW	KAY TOMAS	PULUNG BAKAW	KAY TOMAS	PULUNG BAKAW	KAY TOMAS
ADULT (17+ YRS.)	85	153		1		1
JUVENILE (11-16 YRS.)	14	23				2
CHILD (3-10 YRS.)	17	26				4
INFANT (1-2 YRS.)	1	2				2
NO DATA	87	83				

REMAINS WITH NO CRANIA (FROM PULUNG BAKAW AND KAY TOMAS)

	GRAVE NUMBER	ATLAS PRESENT	ATLAS NOT PRESENT	AGE	TRADE WARES PRESENT (NUMBER)	OTHER CULTURAL MATERIALS
PULUNG BAKAW	35		X	ADULT	3	SPINDLE WHORL 2 EARTHENWARES
	106		X	ADULT	(NO CULTURAL MATERIALS)	
	121		X	ADULT	1	SPINDLE WHORL
	185		X	ADULT	1	1 EARTHENWARE
KAY TOMAS	4		X	ADULT	1	3 EARTHENWARES
	18		X	ADULT	1	1 EARTHENWARE
	1024	X (VIOLENCE NOTED)		ADULT	2	2 EARTHENWARES
	1026		X	ADULT	1	2 EARTHENWARES
	1084	X		ADULT	(NO CULTURAL MATERIALS)	
	1086		X	JUVENILE	(NO CULTURAL MATERIALS)	
	1096		X	JUVENILE	(NO CULTURAL MATERIALS)	
	1126		X	ADULT		SPINDLE WHORL 1 EARTHENWARE
	1140		X	ADULT	(NO CULTURAL MATERIALS)	
	1146		X	ADULT	1	2 EARTHENWARES
	1167	X (VIOLENCE (SKULL AT FEET))		ADULT	2	
	1175		X	ADULT	(NO CULTURAL MATERIALS)	
	1183	X (BRAIN CORAL REPLACES SKULL)		ADULT	(NO CULTURAL MATERIALS)	
	1197		X	ADULT	1	SPINDLE WHORL 2 EARTHENWARES
	1201		X	JUVENILE	1	
1211		X	ADULT	2		
1224		X	ADULT	1	2 EARTHENWARES	
1229		X	ADULT	(NO CULTURAL MATERIALS)		

Fig. 7

One skeleton was excavated at Kay Tomas which had brain coral in place of the skull, and Janse illustrates a monochrome bowl which replaced the skull.¹⁵

Of far greater interest are evidence of a postmortem disarticulation of skulls. Three skeletons were found at Kay Tomas which had the skull missing but the first cervical vertebra or atlas present. The writer cannot conceive of any way in which the head of a living person can be removed during an act of violence, which head-taking certainly is, without damaging the vertebrae of the neck. A large stoneware jar which the writer excavated at Pinagpatayan contained the supine remains of an infant and six skulls (!) three adults, one juvenile, and two children. The writer could find no evidence of violence on these skulls, and this is apparently an example of a multiple skull-burial associated with an infant jar-burial. At Kay Tomas, Janse found one skull which had been placed in a bowl.¹⁶ In 1957, near the community of Malubago, Cagraray Island, Albay,¹⁷ the writer found portions of two skulls in a superb, late 14th century Celedon dish which had been inserted in a small grotto about four meters above the sea. The practice of skull burial was apparently widespread in the Philippines during the 14th and 15th centuries.

Skulls without post-cranial remains were also interred at Calatagan; two graves being found at Pulong Bakaw and three at Kay Tomas. At Kay Tomas, no cultural materials were placed with the skulls, but one skull was recovered at Pulong Bakaw which had a blue-and-white plate in association.

Infant Jar-Burial.—The custom of jar-burial, either primary or secondary, is an ancient practice in the Philippines. Eleven different caves have been excavated in Albay and Sorsogon provinces by the writer and Alfredo Evangelista which have yielded an assemblage (about 2,000 years old) of stone

¹⁵ Olov R. T. Janse, "An Archaeological Expedition to Indo-China and the Philippines" *Harvard Journal of Asiatic Studies* Plt. 26-1.

¹⁶ Janse *Op. cit.* p. 350

¹⁷ Robert B. Fox and Alfredo Evangelista, "The Cave Archaeology of Cagraray Island, Albay Province, Philippines" *University of Manila Journal of East Asiatic Studies*, Vol. VI, No. 1 (January 1957) p. 65.

tools, shell artifacts and ornaments, and large earthenwares burial-jars. Other burial-jars were also found on ledges near Mataas, Cagraray, which date from the 15th century.¹⁸ Sites containing jar-burials have been reported from many other provinces; however, the infant jar-burial complex which was found at Calatagan is unusual.

Thirteen large Chinese or Siamese jars and one earthenware jar were excavated which contained the skeletons of infants; four at Pulung Bakaw and ten at Kay Tomas. The infants were placed in a supine position in the jar with the head towards the mouth of the jar (see Plate 10). The mouth of the jar, in turn, was oriented in the same basic direction as the interred remains. In most instances (see Plates 8 and 9), Chinese bowls or plates were used as covers for the mouth of the jar. Grave furniture, commonly smaller trade vessels such as Sawankhalok jarlets, was placed in the jar with the remains. As the infant and the grave furniture placed in the jar (see Plate 9), was invariably larger than the mouth of the jar, it was necessary to break the jar in order to admit the body of the infant and the grave furniture. The broken pieces were then placed in their original positions. The entire neck of one burial-jar, probably Siamese from the Kalong kilns, had been cut away to provide the necessary opening for admitting the body of the infant.

This same type of burial was found by a Museum team (1959) at Butong, a barrio of the town of Taal, in a burial site which also dates from the 15th century. Thus, the practice of infant jar-burial was probably widespread in Batangas during the late proto-historic period.

The Skeletal Materials.—During the excavations records were made of the length of the long bones of the skeletons in order to obtain height estimates, of the age of the skeletons using four categories (adult, 17 plus years; juvenile, 11-16 years; child, 3-10 years; and infant, 1-2 years), of the presence or absence of tooth filing, of evidences of violence, and so forth. No attempt was made, however, to sex the individual skeletons.

¹⁸ *Ibid*, pp. 60 and 67.

The criteria which is used to determine the sex of caucasoid skeletons did not appear to fit the Calatagan remains. The innominates were invariably too eroded for evaluation, and the physical characteristics of the skull, such as the prominence of the supraorbital ridge, the size of the mastoid process, and so forth, did not vary markedly from skeleton to skeleton. The writer, in fact, has been struck by the lack of pronounced physical dimorphism in the contemporary Filipino population. Hence, rather than make errors which might establish erroneous cultural patterns, the remains were not sexed. It was hoped that sex differences would be established from the associations of the grave furniture (e.g., a plate inverted over the pubic area found with a spindle whorl), but this has also been unsuccessful.

The height range of the skeletons is shown in Fig. 8, denoting a considerable variation as would be expected, but an average which approximates the present Filipino population in the rural areas. No evidences were recovered in the excavations, such as a grave with a distinct complex of grave furniture, which would indicate that the population (or even an individual) was other than Filipino. The estimated ages of the grave population for which estimates were obtained are shown in Fig. 5.

As was general throughout the Philippines and as is still practiced by Non-Christian people, nearly all the adults had filed teeth. Two types of filing were encountered as shown in Fig. 9, but with few exceptions the filing was of the type shown to the left in Fig. 9—concave on the face of the tooth and square on the biting edge. The filing-formula varied and in many cases more teeth were filed in the upper jaw than in the lower jaw (the filing-formula in order of frequency was: Upper, 6 and Lower, 6; Upper 6, and Lower 4; Upper 8, and Lower, 6; and Upper 10, and Lower, 8). In short, the usual case was for the upper and lower six incisors to be filed. And, if the pre-molars were included in the filing it was invariably in the upper jaw.

The teeth were not filed until the late teens (we encountered only one exception, a juvenile whose age was estimated as

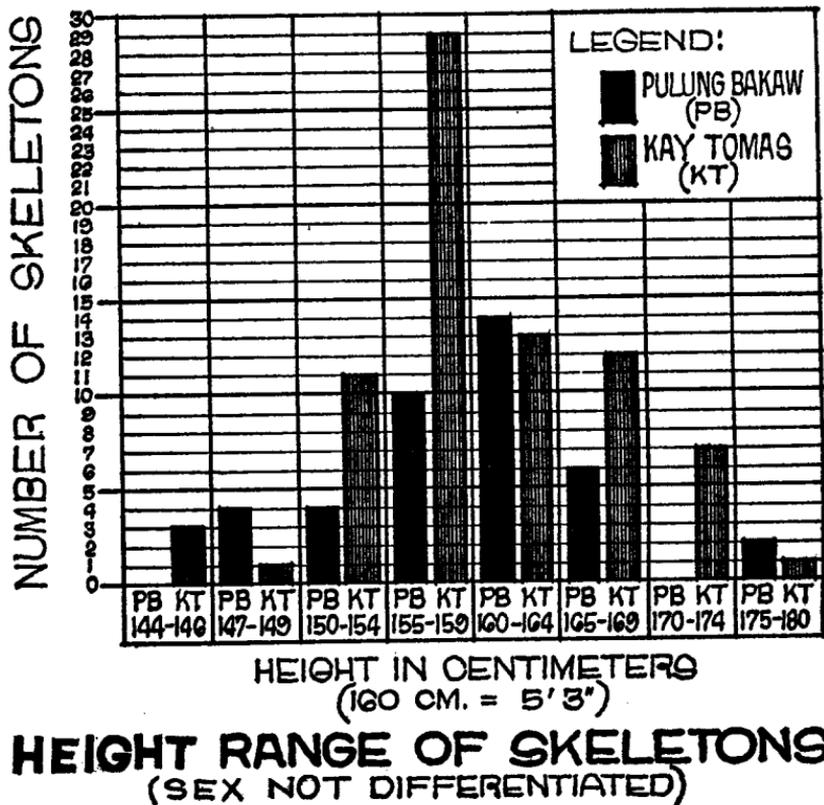


Fig. 8

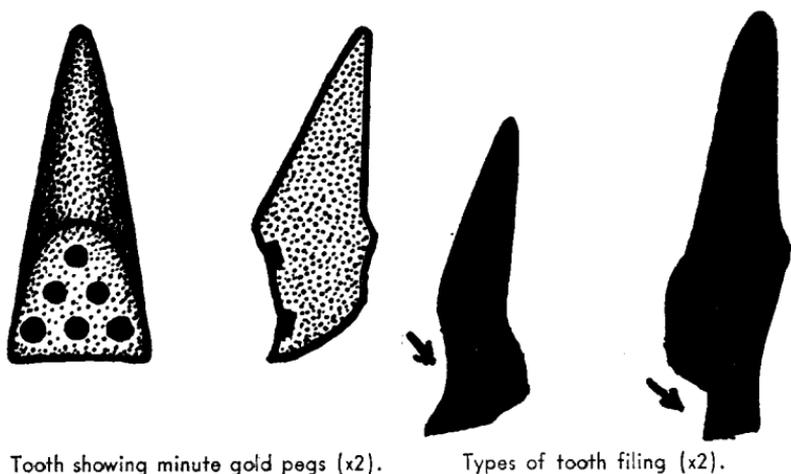


Fig. 9

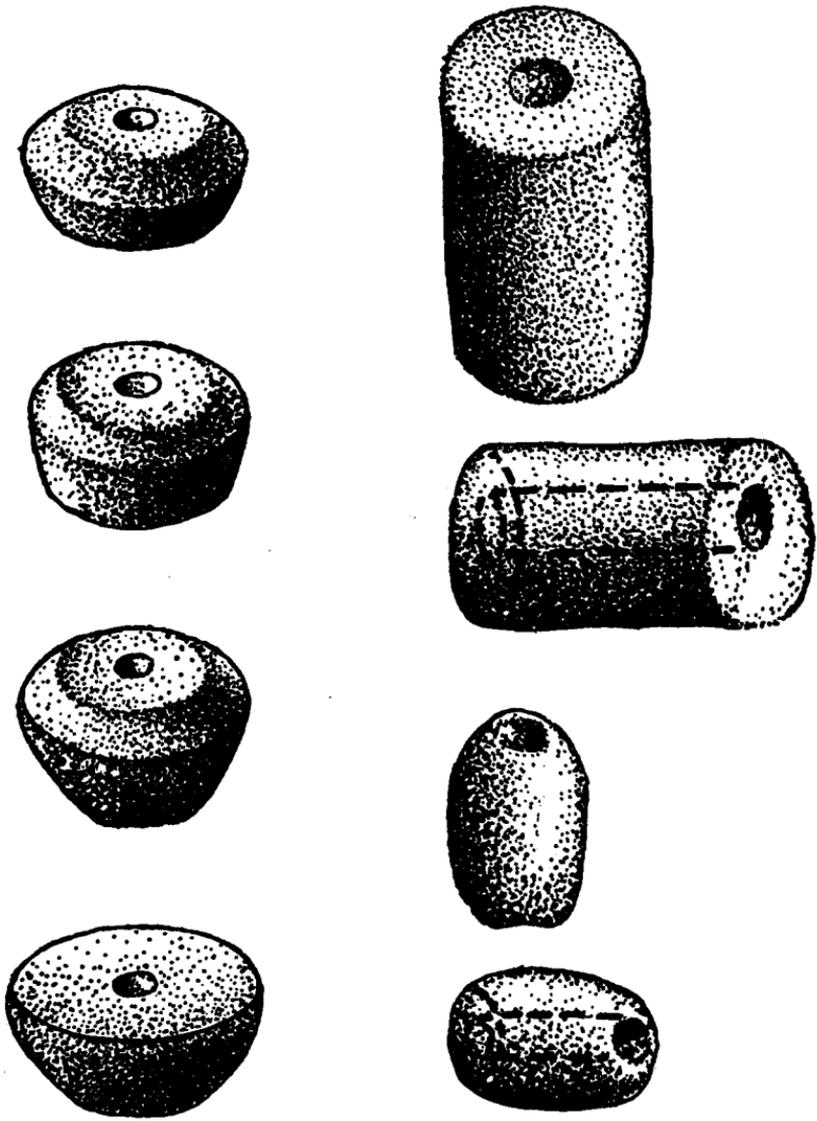
10-12 years). It was for this reason that seventeen years plus was chosen for the adult category. Not all adults filed their teeth; the control sample indicating 82% of the adults. The presence or absence of filing was not correlated with any difference in the cultural materials found in the grave and undoubtedly included males and females.

One remains at Kay Tomas had tiny gold pegs (see Fig. 9) in the incisor teeth. As the teeth of 260 adult remains were examined, the presence of gold pegs in only one individual was striking. Gold pegs in incisor teeth have been widely encountered in Philippine sites, at this time-period and earlier, but more frequently from the central and southern Philippines.

The Grave Furniture.—Filipino-made earthenwares and trade potteries formed the bulk of the grave furniture. Ornaments of glass or metal, weapons, and other artifacts were rare. Exactly one-half of the graves at Pulung Bakaw had one or more trade potteries; at Kay Tomas, slightly more than one-half. Earthenwares were a little more common than trade potteries; in 108 graves at Pulung Bakaw out of 208; in 196 graves at Kay Tomas out of 297. At Pulung Bakaw, only 52 graves had no potteries; at Kay Tomas, 70.

Food was frequently found in earthenware utilitarian vessels (Forms A, B, and C of the Kay Tomas Plain)—shells, bones of fish and animals, and other organic materials, probably crops and food plants (the latter are being analyzed). The vessels containing food were often covered with a Chinese bowl. In some instances, shells were scattered in the grave, particularly the "Giant Clam" and species of Cowries. In a few instances, the larger bones of pigs and deer were found lying beside the skeleton.

The distribution of local and trade potteries in the graves followed broad patterns. Thus, Chinese plates were frequently inverted over the pubic area (see Plate 7); saucers placed beneath the hands; and small Sawankhalok jarlets arranged behind the head. In general, vessels were found around and behind the head, near the waist, and at the feet, but there were exceptions. Generally, too, smaller potteries were found



Types of spindle whorls
(actual size)

Types of net-sinkers (actual size)

Fig. 10

with infants and children. Trade potteries were more frequently placed closer to the remains than the earthenwares. It would appear that the trade potteries were wrapped with the remains whereas the local earthenwares were merely placed in the graves.

Spindle whorls were found in 30 graves at Pulung Bakaw; 31 at Kay Tomas, (see Fig. 10). In most instances, the spindle whorls were associated with adults but a few were also found with juveniles and children. One grave of an adult at Kay Tomas contained three spindles. It would be reasonable to assume that the spindle whorls were placed with female remains but this was not demonstrated. Net weights, similar to types made of pottery which are still used in the Philippines, were found in midden areas and on the surface of the sites.

Ornaments of non-perishable materials were rare. Anklets made of brass were found on one skeleton at Pulung Bakaw; three, at Kay Tomas. They were worn on either the left or right ankle.¹⁹ Bracelets, in contrast were made of glass and were found on either the left or right arm or both. Two types of bracelets were encountered (see Plate B). One is made of a translucent green glass which Professor Beyer identifies as Filipino-made. The other is made of an opaque, blue or green, glass paste, and this type probably came from Indo-China.

Beads (Plate B) were not common, although a variety was found. They were worn as necklaces or around the ankles and wrists. Triangular patterns formed with three small glass beads were found around the waists of a child at Kay Tomas, suggesting that the beads may have been sewn to a fabric, such as a skirt.

A finger ring made of an alloy of gold-silver-copper was associated with the remains of a child found at Pulung Bakaw. Gold-leaf ornaments were found in only three graves at Kay Tomas (see Plate B).

The paucity of ornaments made of metal, glass, and other non-perishable materials would imply that plant materials were

¹⁹ Edgardo P. Reyes of the National Institute of Science and Technology has identified the brass bracelets as being made of an alloy of copper and zinc.

more commonly employed for this purpose—rattan, the hard, colorful outer sections of ferns and orchids, and so forth. The latter are extensively employed today by Non-Christian groups.

Blades of spears (one small blade was made of brass, the others of iron) were found in two graves at Pulung Bakaw, in seven graves at Kay Tomas. (see Plates 163-164). The forms are generally like the blade of a rice leaf and are forms which have been common on Luzon and are still known to the Tagalog in the Magallanes area of Cavite and Batangas. No daggers were encountered which are common in the southern Philippines.

The parts of two chests were found; one at Pulung Bakaw and the other at Kay Tomas. At Pulung Bakaw, the lock, handles, and so forth are made of brass, and are of Chinese type. Though the lock and other parts of the chest recovered at Kay Tomas are similar in form, the material is iron (see Plate 162). One small brass cover-bowl, undoubtedly of Chinese manufacture, was included in the chest found at Pulung Bakaw, and a grave at Kay Tomas contained a brass plate with foliated rim. As the metal of this plate contained lead and tin, it was undoubtedly imported.

The infrequency of metal weapons would suggest that points were also made of the outer hard wood of palms or of bamboo. Historical sources note the use of the outer hard wood of palms and state that it was superior to the metal points. These media are still employed by Non-Christian groups.

Middens.—No actual habitation area was found at Kay Tomas and only limited middens at Pulung Bakaw. Their presence is known by great quantities of shells, such as were found at Punta Buaya and Pinagpatayan #2.

APPENDIX I

PRELIMINARY STUDY OF THE TRADE
POTTERIES FROM CHINA, SIAM, AND ANNAM.

Significance.—A thorough study of the trade wares from the Calatagan sites is planned. As noted, more than 1200 whole or restored vessels from China, Siam, and Annam have been recovered, and time and space at this time preclude more than general statements about the characteristics of the type-wares reaching Calatagan during the late 14th and 15th centuries, and their significance in interpreting the culture history of the area.

Though the trade potteries found in the Philippines in 14th and 15th centuries sites might not excite the connoisseur of porcelains, they are of marked interest to the culture historian and archaeologist, and to students of the ceramic art of the Far East. These potteries are still not well known despite the paper written by Robb which was based upon Professor Beyer's extensive research and knowledge,¹ and they continue to be ignored generally by the experts as being "primitive" and "of doubtful origin." This is unfortunate for their appearance in archaeological sites throughout Southeast Asia provides reliable time-markers for dating sites and the help of the specialists is needed.

Again, despite their quality—the majority obviously being hurriedly made either for cheap local consumption or for export—many fine, technically competent pieces are encountered, and all may yield some data about the ceramic developments in the Far East, particularly in Siam and South China.

It is generally held, for example, that *Ming* porcelains painted over the glaze in enamel colors was largely a development of the late 15th century, particularly during the reign of the Ch'eng Hua (1465-87), and experts continue to debate about *Ming* pieces with enamel painting attributed to an earlier date.² A study of the porcelains from Calatagan would suggest that enamel painting was also used in early *Ming* times. Cups and plates were recovered which are painted over the glaze in red, green, and yellow enamels which are identical in forms

¹ *New Data on Chinese and Siamese Ceramic Wares of the 14th and 15th Centuries.* Summarized by Walter Robb from the field and laboratory notes of Professor H. O. Beyer, University of the Philippines. *Philippine Magazine*, Vol. XXVII, Nos. 3 and 4 (August and September, 1930). The following treatment of the trade potteries has drawn heavily upon this source.

² William Bowyer Honey, *The Ceramic Art of China and Other Countries of the Far East* (New York: The Beechhurst Press, 1954), pp. 122-123.

and designs with blue-and-white pieces dated by Professor Beyer as "Yung Lo or earlier." (see plates 60 and 70).

During the more recent excavations at Butong, Taal, a blue-and-white plate was recovered which is also painted in red over the glaze. The foot-rim and base, glaze, and design complex of this plate clearly identifies it as early 15th century. Thus, data about trade potteries, even the classes reaching southeast Asia, may aid in the development of the ceramic history of China.

Perhaps the greatest value of the trade potteries, in relationship to a study of ceramic developments in the Far East, lies in a careful analysis of their *associations*, such as when pieces from China and Siam are found in the same graves of sites which are pre-Spanish. The associations, as well as changes in the patterns of associations of a particular pottery-complex, provide reliable dates for the potteries, as well as clues to the time and intensity of kiln activity and trade.

There has been considerable discussion in the literature, for example, about the duration of production at the Sawankhalok kilns—whether or not they continued to produce potteries in the 16th century or even later. A recent study by Spinks suggests that the Sawankhalok kilns began to produce a distinctive type of ware, principally for export, around the middle of the 14th century, and "... that production came to an end, at least at the Sawankhalok sites, in the 15th century."³ This was probably during the latter part of the 15th century when, as Spinks notes, a series of wars led to the destruction of a major portion of the town, in both 1460 and 1464, and to the abandonment of many kilns which contained unfinished pottery.

The archaeological evidences from the burial sites at Calatagan would strongly support Spinks' views, particularly as the Sawankhalok potters apparently produced largely for export. At Pulung Bakaw and Kay Tomas, eighty-seven graves were excavated which contained Sawankhalok potteries (it is significant in dating these two sites to note that not a single piece of Sukhotai ware was found).

The Sawankhalok pieces recovered were found in association with the *earlier* Chinese pieces, such as 14th century monochromes, Late Yuan or Early Ming, and the types of blue-and-white with sharp, beveled foot-rims which are early 15th century. Thus, most of the Sawankhalok pieces apparently reached Calatagan during the latter part of the 14th century or the early 15th century, being uncommon in the younger graves of the two sites. Sawankhalok potteries, in fact,

³ Charles Nelson Spinks, "Siam and the Pottery Trade of Asia," *The Journal of the Siam Society*, Vol. XLIV, Part 2 (August 1956), p. 74.

PROVENIENCE OF TRADE POTTERIES FROM PULUNG BAKAW AND KAY TOMAS

SITE	TOTAL	CHINESE		SIAMESE		ANNAMESE		UNKNOWN	
		#	%	#	%	#	%	#	%
PULUNG BAKAW	213	180	.85	28	.13	4	.02	1	—
KAY TOMAS	307	231	.75	68	.22	5	.02	3	.01

— EQUALS LESS THAN 1%

Fig. 11

FORMS OF CHINESE POTTERIES (EXCAVATED AT PULUNG BAKAW AND KAY TOMAS BY MUSEUM TEAM)

TYPE	CUPS	BOWLS	DISHES	COVER BOWLS	BOTTLES	KENDI	PITCHERS	JARLETS	JARS
	#	#	#	#	#	#	#	#	#
BLUE & WHITE									
PULUNG BAKAW	1	60	55	3				4	
KAY TOMAS	3	70	70	4	1	2		5	
MONOCHROMES									
PULUNG BAKAW		26	8					1	
KAY TOMAS	1	35	18					1	
WHITE WARES									
PULUNG BAKAW	1		2						
KAY TOMAS	1		9						
OVERGLAZE ENAMEL									
PULUNG BAKAW			2					1	
KAY TOMAS		1	2					1	
STONEWARES									
PULUNG BAKAW							3		10
KAY TOMAS							2		6

Fig. 12

are not common in late 15th or early 16th century Philippine sites, and practically disappear in early post-Spanish sites.⁴

The trade potteries are an important phase of the study of the ceramic history and art of the Far East, and it is hoped that these brief remarks will stimulate greater interest in this class of much maligned wares, as well as institutional support for excavating other sites which contain porcelain and stoneware potteries from China, Siam, and Annam.⁵

Provenience of the Trade Potteries.—As shown in Fig. 11, the great majority of the trade potteries are from China. There is, nevertheless, a surprisingly large number of Sawankhalok vessels. They formed 22 per cent of the recoveries at Kay Tomas; 13 per cent at Pulung Bakaw. Based upon Professor Beyer's research, Robb has written:

In the Visayan Islands graves the proportion of Sawankhalok pieces runs from 20 to 40% of the entire quantity of ceramic specimens interred with the burials. In the stratified Luzon deposits, however, which mostly represent old village sites, the proportion of Sawankhalok ware falls off noticeably—probably not exceeding 5% (or perhaps even 2%) in any site.⁶

Elsewhere Beyer has noted: "The Chinese trade-relations with Luzon were much less disturbed [by competition with traders bringing wares from Siam and other Southeast Asian areas], and the quantity of

⁴ See the many statements in H. Otley Beyer's, "Outline Review of Philippine Archaeology by Islands and Provinces," *The Philippine Journal of Science*, Vol. 77, Nos. 3 and 4 (July-August 1957).

⁵ To date, only two persons have worked systematically with the trade potteries found in the Philippines, Professor Beyer and Kamer Aga-Oglu, and very little has been published. Beyer's monumental study of 800 typewritten pages is still in manuscript. The following articles by Professor Aga-Oglu offer pertinent information: "Ying-Ch'ing Porcelain Found in the Philippines," *Art Quarterly*, Vol. 9 (1946), pp. 315-26, 11 figs. "Ming Export Blue and White Jars in the University of Michigan Collection," *Art Quarterly*, Vol. 9 (1948), pp. 201-17, 12 figs. "The Relationship between the Ying-Ch'ng, Shu-Fu and Early Blue and White," *Far Eastern Ceramic Bulletin* (December, 1949), pp. 27-33, 6 pls. "Early Blue and White Wine Pot Excavated in the Philippines," *Far Eastern Ceramic Bulletin* (June, 1950), pp. 64-71, 1 pls. "Blue and White Porcelain Plates Made for Moslem Patrons," *Far Eastern Ceramic Bulletin* (September, 1951), pp. 12-16, 2 pls. "The So-called 'Swatow' Wares: Types and Problems of Provenance," *Far Eastern Ceramic Bulletin*, Vol. No. 2 (1955), pp. 1-34, 24 pls.

⁶ *Op. cit.*, p. 10.

Siamese and Indo-Chinese ceramic wares probably never exceeded 5 to 10% in the Luzon trade."⁷

The difference in the percentage of Siamese potteries recovered at Calatagan and Professor Beyer's estimates is significant; a difference which might qualify Beyer's analysis of the trade patterns in the late 14th and early 15th centuries which involved Siamese and Chinese potteries. It may be due, however, to whether or not the potteries (sherds) were recovered from habitation sites or burial sites. In Calatagan, during the pre-Spanish period, it is clear that the trade potteries were used largely, if not wholly for ritual and/or festival purposes, one of their primary functions being for grave furniture. The surfaces of the vessels show no evidence of daily, household use, and pieces with over-the-glaze-enamel-painting are unmarked, although the enamel is easily removed. Breakage was probably uncommon, as compared with earthenwares. Hence, habitation areas at Calatagan, as well as other sites recently excavated in western Batangas, have relatively few sherds of trade potteries, excepting perhaps stoneware jars. Moreover, the sherds found are usually blue-and-white plates, being less durable than the sturdy Sawankhalok jarlets which formed the bulk of the Siamese trade pieces at Calatagan. In short, it is doubtful if the percentage of trade potteries from burial sites can be validly compared with habitation sites.

It might also be argued that the relatively large number of Sawankhalok pieces from Calatagan, plus the fact that the area appears to have been occupied for only a short time (less than one-hundred and fifty years), would indicate an intrusive group of people from the southern or central Philippines where, according to Beyer, the Siamese potteries are common. However, the bulk of the evidence, as noted, supports the view that the people living in Calatagan during the late 14th and 15th centuries were related to other coastal peoples in the Batangas area, perhaps being ancestors of some of the present inhabitants.

Further systematic excavations and comparisons of materials recovered will be necessary before these challenging problems will be clarified.

THE CHINESE POTTERIES

The collection of potteries of Chinese provenance excavated at Pulong Bakaw and Kay Tomas totaled 411 pieces. Of this number, 68 per cent are "blue-and-white" or perhaps best described as blue painting under a glaze, for the glazes vary considerably in color and type.

⁷ H. Otley Beyer, "Early History of Philippine Relations with Foreign Countries, specially China," in E. Arsenio Manuel's, *Chinese Elements in the Tagalog Language*; Manila, 1948.

The monochromes (mostly early Ming with light, glassy, green glazes which are reminiscent of the Sawankhalok glazes, but also including a few specimens which are probably Yuan from Ch'u Chou) comprised 22 per cent of the study collection. The remainder of the collection is composed of stoneware covers, pitchers, and large jars, 6 percent; white wares, 3 per cent; and pieces painted in enamel over the glaze, only seven in all, less than 1 per cent. Thus, the bulk of the Chinese wares in the Calatagan sites is "blue-and-white," the characteristic trade-group of potteries which began to reach the Philippines in quantity in the late 14th century.

Form.—The blue-and-white group is striking in its paucity of forms (see Fig. 12). Nearly 92 per cent of the forms consisted only of dishes (plates, saucers), and bowls. The dishes and bowls, in turn, are about equally divided. This suggests, in addition to the poor quality of the pieces,⁸ that the trade potteries from China were *not* produced (with exceptions) for export *per se*, but were simple, utilitarian vessels made for Chinese home consumption (the "peoples' ware") and if defects were numerous, culled for overseas trade. Blue-and-white vases (*kuan* and *mei-p'ing* shape), pitchers, and other classical forms found by Pope at the Ardebil Shrine are conspicuously absent, though some 15th century specimens of these types have been found in the Philippines.⁹ Not a single sherd of a blue-and-white jar was found in Calatagan. The other groups of the Chinese potteries (see Fig. 12) have an equally restricted form-range. However, one fine monochrome incense-burner was recovered at Pulong Bakaw. It is possible that the limited number of forms reflect, in part, Filipino demands during the 14th and 15th centuries. Bowls and dishes (also large stoneware jars) are of great ritual importance among the present-day Filipino Non-Christians, and it is apparent that they were of equal or greater importance in the past.

Among the Tagbanuwa on Palawan Island, for example, husked rice, betel nut preparations, and other ritual foods are placed in a bowl or plate, held above the head by a medium, and tapped five or seven times to call the spirit-relatives and deities to partake of the offering (some 15th century vessels are still utilized in this manner). A true porcelain dish is prized, for then the deities can easily hear the clear musical ring.

⁸ See *New data on Chinese and Siamese Ceramic Wares of the 14th and 15th centuries*. (Summarized by Walter Robb from the field and laboratory notes of Professor H. O. Beyer, University of the Philippines.) *Philippine Magazine*, Vol. XXVII, Nos. 3 and 4, (August and September, 1930), pp. 9-10.

⁹ John Alexander Pope, *Chinese Porcelains from the Ardebil Shrine* (Washington: Smithsonian Institution, Freer Gallery of Art, 1956).

The blue-and-white plates in the study collection have five basic profiles (these are not illustrated); (1) a gradually curving, convex side and plain lip; (see Plates 29-30); (2) a side which is convex near the base but straightens towards a plain lip (3) a gradually curving convex side with an everted, flaring lip; (4) a gradually curving side with an everted and flattened lip; and (5), in large plates, convex, gradually curving side with flaring rims and slightly in-turning lips. The profile of the typical white ware is illustrated (Plate 79), and the monochromes tend to have complex contours. All of the overglazed enamel wares recovered are identical with the first type of profile of the blue-and-white plates—gradually curving, convex side with plain lip. Some of the typical forms of the bowls of blue-and-white, monochrome, white ware, and enamel ware are illustrated. (See Plates 53, 54, 56, 58, 59 and Plates 82 to 89 inclusive).

A distinctive feature of the early Ming monochromes bowls reaching the Philippines is a raised center or "bump." This feature, according to Beyer, is early Ming, made during or before Yung Lo.

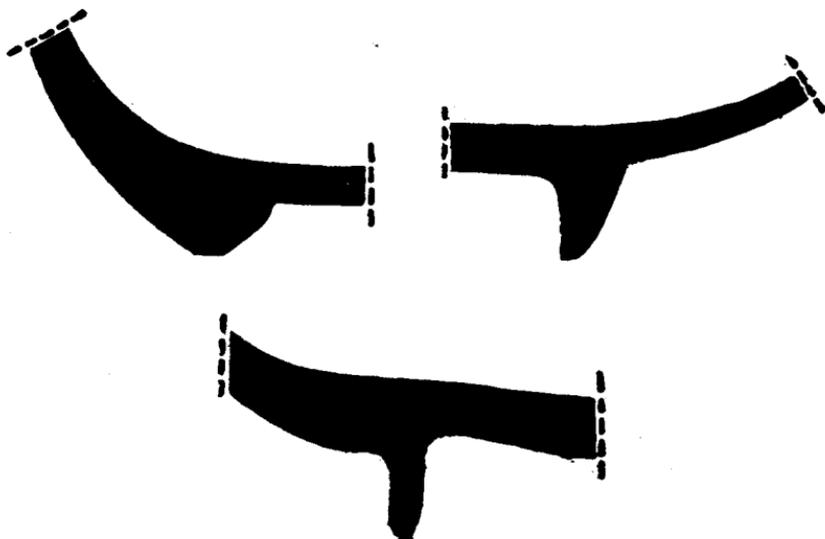


Fig. 13. Earthenware Bases

The Bases.—As Professor Beyer has noted in other late 14th and 15th century sites, the dishes from Pulong Bakaw and Kay Tomas show two new and characteristic bases—the "hole-bottom base" and a glazed or unglazed base with a narrow, sharp footrim, beveled on the outer edge (see Fig. 13). The latter base is confined wholly to blue-and-white pieces of the late 14th and 15th centuries (mostly early 15th). In fact, it becomes thicker and rounded in the late 15th and 16th centuries.

Thirty-one small dishes with hole-bottom bases were found in the two Calatagan sites; twenty-five blue-and-white, and six monochromes usually with stamped designs in the center. Other types of bases are found on some of the larger plates, being squarish without a bevel. These are probably derived from older forms. However, the sharp, beveled base is the most common footrim found with plates which also have the most characteristic designs, such as the kylin, Chinese lion, chrysanthemum and jar, the crane in garden, and so forth (see Plates 23 to 40 inclusive).

The dishes with the sharp, beveled footrim (and other forms) frequently have particles of sand or dirt adhering to the footrim. The bases of these type-dishes are usually glazed, but unlike other portions of the body of the vessel, the glaze is opaque and milky white.

The monochrome bowls invariably have a heavy, squarish footrim, though some specimens are beveled on the inside of the rim, the outside, or both. Many blue-and-white bowls approximate the bases of the monochromes, though they tend to be thinner. One form of bowl found in the earlier grave-associations is distinct, having a high, thin, somewhat tapered footrim. The base with this type of footrim is usually glazed and the entire vessel of better than usual quality (see Plate 54 and Fig. 13). Professor Beyer, having data based upon stratified sites, believes that this latter type of base is early 15th century, probably Yung Lo (1403-1424). Its grave-associations in the Calatagan sites would support this view.

Bases, when unglazed, are often red due to the ferruginous quality of the clay.

Marks in Underglaze Blue.—No reign-marks were found on the bases, as would be expected. One broken dish, recovered in a plow furrow at Kay Tomas, had the inscription which has been translated as "Made in the Ming Dynasty." Other inscriptions on blue-and-white bowls and dishes were "Marks of Commendation," such as "May Happiness and Emolument Come to You" (see Plate 24) or "Everlasting Youth" (Plate 52). More common were "Potter's Marks" but these were found on only two types of vessels on which they were common: (1) the white ware plates, and (2) the small blue-and-white cups (see Plate 60). The pieces having marks of any sort are generally of much better quality.

Paste.—No attempt has been made to study systematically the pastes of the trade potteries recovered at Calatagan, though it is envisaged. The pastes in the blue-and-white, white wares, and overglazed enamel vessels vary from a true porcelain to a porcelainous-stoneware to a soft stoneware, almost a "pottery". The crude, coarsely decorated pieces with dull and pitted glazes were rarely true porcelains. The quality of the

paste of the monochromes is invariably superior to the blue-and-white with the exception of some of the earlier blue-and-whites. It would appear that as the China pottery trade increased in tempo in the late 15th, but particularly in the 16th and 17th centuries (partly interrupted in the Philippines by the Spanish) that there was a decline in the quality of the wares with regards to paste, as well as the drawing and glaze, in favor of quantity for trading.

Glaze.—The characteristic glazes of the early 15th century blue-and-white, as Professor Beyer has also pointed out, are relatively thick, bubbly, and either green-tinted or blue-tinted on the bodies of the vessels. Plates with the early 15th century sharp, beveled footrim will often have three colors of glaze: (1) an opaque, milky-white glaze within the footrim; (2) a green, varying from a very light green to a green of Celadon quality, under the lip; and (3) a blue-tinted glaze within the center of the vessel. Due to the innumerable small bubbles in the typical glaze, the blue underglaze designs appear misty and totally unlike the sharp designs beneath the clear glazes in later Ming times. For the writer, at least, the misty, blue decorations under the glaze of the better plates, for example, the kylin (see Plates 27 to 30), are attractive, lacking the cold, hard, manufactured appearance of later designs under clear glazes.

Professor Beyer, in conversations, has suggested that the green-tint in the glazes of the "blue-and-white" pieces, which as noted may reach a deep green, may be a reflection of the early Ming potters' continued interest in the color green which dominated the Sung and Yuan periods. Many of the coarse pieces, particularly bowls, have a whitish, somewhat opaque glaze which in places will almost obliterate the underglaze glaze designs. Many pieces, too, have been reglazed with little attempt to control the flow of the glaze near the base. Thus, bases are often partly glazed and tear drops sometimes occur on the footrims, as well as a heaping of the glaze on the footrim and on the body near the base.

The glazes of the late 14th and early 15th century Ming monochromes tend to have a glassy, light-green color (whitish-green and gray-green glazes are also common). Crackling is rarely associated with this glaze, though crazing is common. The presence of many specimens with the glassy, light-green glazes may be due, according to views expressed by Professor Beyer, to an attempt by the Chinese potters to reproduce Sawankhalok glazes and offset the success which the monochromes of Siamese production had in the Southeast Asian trade.

The colors of the monochromes are influenced considerably by the paste. True porcelains having white paste and a green glaze appear green, but when the green glaze is placed over a vessel with an iron-red

paste which is at best porcelainous, the resultant glaze has a pinkish-green cast. Many poorer monochromes of this color were recovered.

One small plate was excavated as Kay Tomas which has an opaque, turquoise blue glaze, and a stoneware body. Another cover bowl has an opaque, apple-green glaze, and a yellow glaze on the knob of the cover. Two figurine vessels in four-colors are illustrated on the frontispiece (Plate A). These latter pieces have a majolica-like, soft stoneware paste.

Decoration.—Although it is argued that the repertory of the Chinese potter-artists cannot be subject to statistical analysis and this may be true of pieces of "Imperial" production¹⁰ the trade potteries which reached the Philippines in the late 14th and 15th century have a relatively limited number of design-elements which, in turn, form common design-complexes associated with specific forms of vessels, such as a plate or bowl. This, as well as other evidences, would suggest a type of mass production using master patterns in which the individual painter's artistic expressions are subdued, but not eliminated. Sometimes humor and caricature are expressed, the latter not always a distortion or poor imitation but rather a bold and free interpretation, though hurriedly executed in many instances, of traditional designs. The result was a stylization of conventional designs in which it is frequently difficult to recognize an aberrant design without a series of more orthodox designs for comparison (see Plate 50).

In general, the painting was done with bold, swift strokes and without preliminary outlining (the latter being characteristic of later Ming); however, outlining and washing was not unknown in the early 15th century decoration appearing on a number of vessels which Professor Beyer has dated as "early Ming" (see Plate 53). Earlier pieces employ what appears to be a true "Mohammedan blue" which is semi-liquid in quality, unlike the blues of the 16th and 17th century, and tends to run. The blues vary considerably in tone depending upon the thickness of the glaze and are frequently uneven in color, as when a thicker or imperfect application of cobalt produces dark patches on the designs.

The designs, as noted, are relatively few in numbers and although varying considerably in execution, usually form a single design complex which is associated with a particular type and form of vessel. The kylin, Chinese lion, crane, a combination of fantastic rock and peonies, and others were confined without exception to dishes. The usual center designs appearing on the 15th century blue-and-white plates and their relative numbers are shown in Fig. 14.

¹⁰ John Alexander Pope, *Fourteenth Century Blue-and-White: A Group of Chinese Porcelains in the Topkapu Sarayi Müzesi, Istanbul*, (Washington: Smithsonian Institution Publication 4089, 1952), p. 31.

TYPES OF CENTER DESIGNS ON CHARACTERISTIC 15TH CENTURY BLUE AND WHITE PLATES

TYPE	TOTAL	PULUNG BAKAW	KAY TOMAS	ILLUSTRATION (PLATE NO.)
OCTYCODAL FLORAL DESIGN	20	9	11	41
KYLIN	11	4	7	27,28
CHRYSANTHEMUM JAR AND FENCE	9	2	7	35,36
PEONIES AND ROCK	5		5	37,38
SINGLE LION*	5	3	2	31,34
CRANE IN GARDEN	4	1	3	35,26
FISH	3	2	1	43,44
INSECT (?)	2	2		40
HUMAN FIGURES	2		2	39
TREE, ROCK, AND FENCE	2		2	--

* INCLUDES ONE DOUBLE LION
WITH STREAMERS

Fig. 14

One design complex which has a man sitting under a tree in the center, and horseman in various actions under the lip, was found associated only with bowls having everted lips (see Plate 54). The remaining human figures were confined to dishes (Plate 39). Other recognizable fauna—the crane, birds, fish, and insects—were also found associated only with plates and saucers.

Flora outnumbered all other designs and included the chrysanthemum, the peony, the blackberry lily, the lotus, eelgrass and other aquatic plants, the fern, and trees. Floral scrolls were very common, particularly under the lip of plates and on the bodies of jarlets. Inanimate designs included the classic scroll, cloud collars, diapers, lotus panels, rocks and waves.¹¹

Some classic designs are notably absent in the blue-and-white group. The "dragon" or *lung* was not found on a single piece and the phoenix appeared on only one specimen recovered by workmen after the excavations. Further discussion about the designs is found on the descriptions of the pieces illustrated, and a thorough study of the design elements, the complexes which they form, as well as their associations with vessel types is anticipated.

Enamel Painting over the Glaze.—Though only seven pieces with enamel painting were recovered during the excavations, many additional specimens have been found at Calatagan. The colors are red, green, and yellow, but usually only traces of the yellow remain. Gold and silver gilding are also encountered.

The forms of the pieces painted with enamel over the glaze are, with one exception (Plate 77, Right), similar to the blue-and-white—simple plates, bowls with everted lips, cups, and jarlets (see Plates 70 to 77). Only one piece, a cup, had underglaze blue, and this was an inscription (see Plate 71). However, combinations of blue-and-white pieces with enamels painted over the glaze are not uncommon in 15th century Philippine sites. The quality of the pieces painted with enamel is generally better than the usual trade potteries.

SIAMESE POTTERIES

Numerous pieces of Siamese pottery, as discussed above, have been found in the Calatagan sites. With the exception of seven jars which may be from the Kalong kilns, all were made at Sawankhalok. The pieces excavated by the Museum team at Pulong Bakaw and Kay Tomas were rather restricted in the range of types (see Fig. 15) and nearly 70 per cent were jarlets (the type and form variations are well illustrated on Plates 109 to 117 inclusive).

¹¹ Cf. Pope, *Ibid.*, pp. 30-48

Accidental finds and digging at the sites by the owners of the property have produced, however, other types including a remarkable specimen of a four-eared cover-jar with an opaque, grayish-white glaze on the upper body and a red brown glaze on the lower body, and fine large plates with incised designs under the glaze. Many superb black-and-gray cover bowls were recovered which show a considerable variation in size and form—an attractive and distinct product of the Sawankhalok kilns.

In addition to the distinctive glazes and forms, the Sawankhalok potteries can be readily recognized by a black ring (or portion of a ring) on the base. This was caused by a tall tube of fire-clay used in the process of firing the vessels. The glazes of plates and bowls is also very unlike the Chinese glazes, being thick, extremely glassy, invariably crazed, and usually light-green in tone (gray-greens are also common). It is not unusual to find a heaping of darker glaze in the center of the deep plates and bowls.

The paste of the bowls and plates is a coarse, greyish, porcelainous stoneware; no true porcelains occur. Jarlets usually have a reddish-brown, brown, or buff stoneware paste, and glazes vary in color from a dark to a yellow brown, gray- and olive-greens, true grays, and opaque whites. The paste of the cover bowls is generally a rather coarse greyish stoneware, and the glaze translucent.

The Sawankhalok products form a highly attractive group of potteries still imperfectly studied and illustrated. The Philippines, being one of the great sources of Siamese wares due to decades of intensive trade and the practice of the pre-Spanish Filipinos of placing potteries in graves, offers an unlimited opportunity for studying the products of the Siamese kilns.

FORMS OF SIAMESE POTTERIES (EXCAVATED AT PULUNG BAKAW AND KAY TOMAS)

SITE	TOTAL	BOWLS	DISHES	COVER BOWLS	BOTTLES	JARLETS			JARS
						DOUBLE- EARED	DOUBLE- GOURD	PLAIN	
PULUNG BAKAW	28			7	1	8	3	7	2
KAY TOMAS	68	2	1	11		24	17	8	5

Fig. 15

ANNAMESE POTTERIES

Only nine pieces from the two burial sites excavated have been identified with confidence as Annamese; subsequently, however, a number of bowls with the so-called "chocolate bases" have been recovered.¹² Forms include bowls, cover bowls which are flat-topped, small dishes, and jarlets (see Plates 136 to 138). For trade potteries, the Annamese wares are of relatively good quality.

The paste is distinctive; a fine grained stoneware, whitish or grayish-white in color, which Beyer describes as resembling "steatite" and having closest similarities to the "soft paste" of the Chinese.¹³ The underglaze blue tends to be grayish. One cover bowl has traces of a silver gilt placed over the underglaze blue design (see Plate 137). One jarlet was also recovered which is painted over the glaze in red and green (there are no traces of yellow).

APPENDIX II

PRELIMINARY STUDY OF THE EARTHENWARE

A thorough study of the earthenwares from Calatagan is being prepared by Mr. Daniel Scheans of the University of Oregon; hence, the following treatment is introductory. It is based upon a preliminary analysis of the pottery made for the writer by Mr. Scheans when he was in Manila on a Fulbright scholarship, and upon subsequent analysis continued by the writer.

The Museum team excavated 521 earthenwares in the two burial sites (an identical number of trade potteries were recovered); 201 at Pulung Bakaw and 311 at Kay Tomas. As Kay Tomas yielded the greatest number and range of earthenwares, it was chosen as the "type site." Approximately thirty-five percent of the vessels excavated were whole. Some broken vessels which represented forms not found among the whole pieces were also restored for analysis. In addition, a few whole vessels found by workmen at Pulung Bakaw, Kay Tomas, and Punta Buaya, which were obviously related to the types established, were included in the study to enlarge the form-range of the types. In all, 344 whole or restored vessels were studied and form the basis of this preliminary analysis.

¹² This type of pottery has been recently studied. R. Y. Lefebvre D'argencé, "Les Ceamiques a Base Chocolatee," *Publications De L'Ecole Francaise D'Extreme-Orient*. Paris. 1958. pp. 1-30. 13 pls.

¹³ Cf. "Definitions" provided in Warren E. Cox's, *The Book of Pottery and Porcelain*, Vol. I (New York; Crown Publishers, 1946) p. xiii.

Thousands of earthenware sherds were also gathered from meter-square excavations which were dug to provide analysis units, from the fill of graves (the sherds found in the grave fill are the same in types as the vessels forming the grave furniture), and from extensive surface collections. At Pulung Bakaw, all of the sherds (trade potteries and earthenwares) were saved by control areas which were established over the entire burial site. A preliminary handling of the sherds would suggest that the types set forth below for the whole and restored vessels, particularly for the plain and decorated wares, are generally valid for the sherds. However, a thorough study has not been made of a type of coarse ware, common in the middens, and new types (if not new types, new forms) may be added. A complete description must await Mr. Scheans' analysis.

Three distinct types of earthenware have been established for the whole and restored materials recovered at Pulung Bakaw, Kay Tomas, and Punta Buaya; as noted 344 vessels. These have been named: (1) Kay Tomas Plain, (2) Kay Tomas Incised and Impressed, and (3) Kay Tomas Coarse. With two exceptions all of the earthenware found in the graves belong to the first two pottery types.

The single example of the Kay Tomas Coarse found in a grave was a burial jar containing the skeleton of a newly-born infant. This jar is ellipsoid in form with a marked footrim and a slightly restricted mouth; 30.5 cm. in height. Other forms of the Kay Tomas Coarse vessels were represented only in the sherd collections, most commonly from midden areas. These included parts of pottery stoves (according to Professor Beyer, these were probably introduced by the Chinese) and sherds of heavy, thick vessels. The paste of these vessels is very coarse, the temper often appearing on the surface. The Kay Tomas Coarse will not be described in detail in this preliminary study.

The other atypical vessel found in a grave at Pulung Bakaw (see Plate 151) was, the writer believes, *intrusive* to this pottery complex or at least ancestral. No related sherds were found and, in form, it is reminiscent of much earlier angle-vessels. Its association must await further analysis and site comparisons.

Date and Associations of the Kay Tomas Types.—The three types of earthenware which have been established for Kay Tomas were also found in the other sites excavated by the Museum team and they were represented, as well, in the sherds from the remaining sites.

Moreover, identical types which also include similar form variations of Kay Tomas Plain and Kay Tomas Incised and Impressed have recently been excavated (April and May, 1959) by a Museum team at Ligas, Nasugbu Municipality (see Fig. 1), and at Butong, a village of

the town of Taal which is on the shore of Balayan Bay.¹ These two sites also contained the same range of late 14th and 15th century Chinese, Siamese, and Annamese pottery (a few sherds of 16th century blue-and-white were obtained in one of the middens at the Ligas Site indicating that it was also occupied at a latter date, and suggesting that these earthenware types persisted into the 16th century.

Thus, the Kay Tomas types of earthenware are found throughout Calatagan Peninsula, north of Calatagan on the China Sea side, and to the east in the Balayan Bay area. It was apparently a widespread pottery complex in this area, now Batangas, just prior to Spanish contact and possibly later. As the types and forms found at Butong, Taal, at Ligas, and at Calatagan are identical or nearly so, it is very likely that these earthenwares were made in a *single pottery-making center*. This is the pattern today; one or a very few towns in a province or an area specializing in the production of earthenware vessels.

The Museum team also recovered at Butong a number of pre-porcelain graves—graves which unquestionably date prior to the 7th century and probably earlier—which contained a distinct pottery complex apparently related to some of the types found by Professor Beyer in "Iron-Age" sites at Novaliches, and some forms are not unlike Solheim's "Kalanay" pottery from Masbate. Unfortunately, no sites have been found to date which contain only Tang or Sung porcelains; hence, we do not know what were the pottery types made in this area in the period from the 7th to the 13th centuries.

Description of the Pottery Types.—The preliminary analysis of the whole or restored potteries from Kay Tomas, found in graves, has revealed three distinct pottery types. These are:

KAY TOMAS PLAIN

Method of Manufacture: Paddle-and-Anvil coupled with hand-molding, particularly on the top sections. The zoning, as noted by Wilhelm G. Solheim II, suggests that this pottery was fired primarily in a reducing atmosphere but finished with an oxidizing atmosphere which produced the reddish surfaces.

Paste: The temper in the pieces examined is a fine sand with many small crystals, and the texture is sometimes lumpy with inclusions of

¹ As a result of a generous grant-in-aid by the Manila Times Publishing Company, Inc., to the National Museum, a field team of Messrs. Manuel Santiago, J. Felipe Jocano, and Anthony Bennett (supervised by the writer) was able to excavate three sites in Western Batangas and locate others. During the coming year, the Museum team hopes to continue to work in this area in order to achieve greater continuity and time depth for the area.

RELATIVE NUMBERS OF TYPES AND FORMS OF EARTHENWARES FORMING STUDY COLLECTION FROM PULUNG BAKAW AND KAY TOMAS

TYPE AND FORMS		NUMBER	ILLUSTRATION (PLATE NO)
<u>KAY TOMAS PLAIN</u>			
A	A-1 } A-2 }	147	153 150
B		88	154
C		64	152
D	D-1	6	144
	D-2	9	145
	D-3 AND 4	4	146 & 159
E		2	155
F		2	NONE
G		2	158
H		2	156
I		1	147
J		2	157
K		1	149
L		1	148
M		2	NONE
<u>KAY TOMAS COARSE</u>			
A		1	NONE
<u>KAY TOMAS INCISED AND IMPRESSED</u>			
A		5	139
B		2	142
C		1	140
D		2	143
E		1	141

Fig. 16

granular particles and carbonized matter.² Broken edges and sherds are zoned from a reddish surface, the latter with some fire clouds, to a gray to black core.

Surface Finish: Polished with the polishing marks clearly visible on the surface.

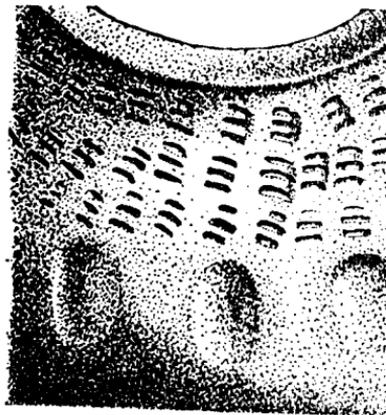
Color: Basically a red ware in which the commonest surface shades, following Munsell's color standards,³ are reddish yellow-red ranging to a less common red yellow-red. The surface color is commonly even which suggests rather well controlled firing, though as noted fire clouds are found on the surfaces of some vessels.

Decoration: None!

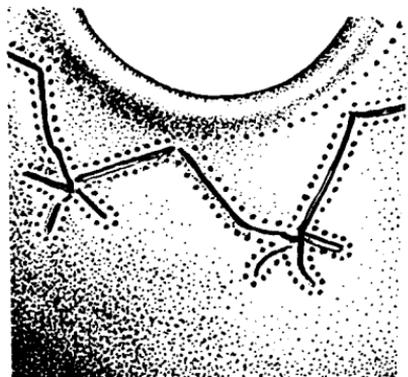
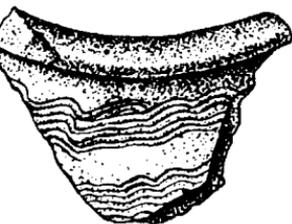
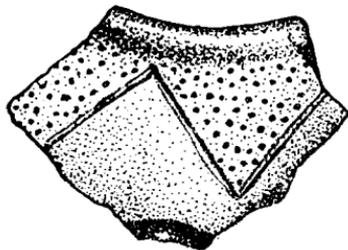
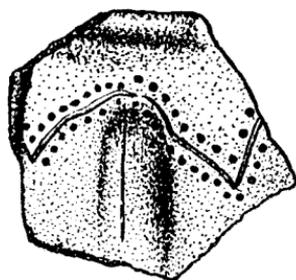
Forms: To date, thirteen forms of Kay Tomas Plain have been established. Most of these are illustrated on Plates 139 to 161, and the relative numbers of each type and form excavated at Pulung Bakaw and Kay Tomas, including references to the plates illustrating the type and form, are found on Fig. 16. Forms A, B, and C—the simple Tagalog *palayok* or spherical cooking vessel with a relatively short neck and flaring rim—comprise 90 per cent of Kay Tomas Plain. In Form A, the mouth of the vessel is only slightly smaller than the maximum width of the body, and the base is plain and rounded. The mouth of B, in contrast, is markedly smaller which is always associated with a depression or “dimple” on the base of the vessel. Form C has a flaring body, and there are usually vertical depressions around the body which gives this form the appearance of a squash (the local workmen actually called this form *kinalabasa* from the Tagalog term, *kalabasa*, and meaning “like a squash.”) Form D, having four sub-forms, is a pouring-vessel with a single spout. This spout is sometimes mammiform and the entire vessel (see Plates 145-146) is similar to the Chinese *kendi* (see Plates 62-63) from which it may be derived. D-1 has a plain round base, short neck, and wide mouth, the spout being thin and up-turned. D-2 has a mammiform spout, relatively tall and narrow neck, and a footrim. D-3 is similar to D-2 but has no footrim. D-4 has a distinct flange on the shoulder, a wide mouth, footrim, and small spout. Form E has an unusual flattish base, the maximum diameter of the body being nearer the base, and a wide mouth. Form F is ovaloid, relatively tall, with a small mouth. Form G has a spherical body with a flange on the shoulder; similar to D-4 but a simple “bowl.” Form H is tall with a low footrim and has an unusual neck with complex contours. Form I, represented by only a single specimen is a “cup”

² Mr. Marcelo Erfe of the Ceramic Section of the National Institute of Science and Technology and Mr. Wilhelm G. Solheim II have both helped in the analysis of the paste.

³ *Munsell Book of Color (Pocket Edition-Volume I)* 1929-1942. Munsell Color Company, Inc. Baltimore, Maryland.



M.P. Santos



of cylinder form with complex contours, the form being influenced possibly by trade potteries. Form J is a flat plate with footrim and Form K, a cup with a flaring ringstand. These latter two forms show unquestionably the influence of trade potteries. Form L is basin-like with a distinctive flat, flaring lip.

Size: Some of the form classes, notably Forms A, B, and C range considerably in height and maximum diameter. They are represented by many specimens. Other forms include only one or a very few specimens and size ranges can not be determined. The size range of vessels belonging to Form A is from 8 cm. in height and 9 cm. in width to 14 cm. in height and 18 cm. in width; in Form B, from 8 cm. in height and 10 cm. in width to 15 cm. in height and 20 cm. in width; Form C, 7.5 cm. in height and 10 cm. in width to 14 cm. in height and 22.5 cm. in width. Form D-1 (Plate 144) ranged from 10.5 cm. in height and 15 cm. in width to 14.5 cm. in height and 18 cm. in width. The sizes of the examples of the various forms of Kay Tomas plain which are illustrated in the plates are as follows:

Plate 146 (Form D-2: H. 15.5 cm. D. 17.5 cm.)
Plate 159 (Form D-4: H. 15.5 cm. D. 18.0 cm.)
Plate 155 (Form E: H. 11.5 cm. D. 12.5 cm.)
Plate 161 (Form F: H. 19.5 cm. D. 19.5 cm.)
Plate 156 (Form H: H. 16.5 cm. D. 15.0 cm.)
Plate 147 (Form I: H. 6.5 cm. D. 9.5 cm.)
Plate 157 (Form J: H. 4.5 cm. D. 19.5 cm.)
Plate 148 (Form L: H. 11.5 cm. D. 25.0 cm.)

KAY TOMAS INCISED AND IMPRESSED

Method of Manufacture: (same as *Kay Tomas Plain*)

Paste: (same generally as *Kay Tomas Plain*)

Surface Finish: Not polished; rough.

Color: The vessels are generally a reddish yellow-red, following Munsell's classification; but a few vessels, in layman's language, are "gray."

Decoration: This type of earthenware is decorated with incised, impressed, or various combinations of incised-impressed designs in which the field-of-decoration is always the shoulder. The designs in which only incising was found invariably consisted of one or more wavy parallel lines around the shoulder (if more than one, separated by straight lines) in which the number of parallel wavy lines depended upon whether a two, three, four, or five pronged incising-tool was used. Vertical finger impressions on the shoulder were the only design on a few vessels. The usual combinations of incised-impressed designs include (1) incised open triangles around the shoulder, reaching the neck, in which there were impressions made by the point of a tool either

within or outside of the open triangle; (2) incised open triangles with punctuations and vertical finger impressions. Other combinations of incised and impressed designs appearing on sherds are illustrated in Fig. 17. (*Examples of Decorated Sherds from Kay Tomas.*) Form A has a six or seven pointed star-like design on the shoulder around the neck. This design is emphasized by punched impressions on the background between the points of the "star."

Forms: Five forms of Kay Tomas Incised and Impressed are distinguishable among the whole or restored vessels. Although only eleven vessels of this type were found in the graves, a preliminary study of the sherds would indicate that these are the basic forms. Forms A, B, and C are spherical; Forms D and E, ellipsoid. Form A is unusual in having two spouts and two lugs; the others are differentiated by the relative size of the mouth compared to the body, the height of the neck, and characteristics of the lip. Form B has a large mouth, relatively tall neck, and flaring lip. Form C has almost no neck and little flare to the lip. Form D is squat with a very short neck and almost no flare to the lip. Form E is also squat and has no neck.

Size: The size of the forms illustrated are as follows: Plate 139 (A: H. 16 cm. D. 20 cm.); Plate 142 (B: H. 15 cm. D. 22 cm.); Plate 141 (C: H. 12.5 cm. D. 19.5 cm.); Plate 143 (D: H. 11 cm. D. 22.5 cm.); and Plate 140 (E: H. 10 cm. D. 17 cm.).

In summary, the types of pottery from Kay Tomas and related sites form a diagnostic complex which can readily be associated with earthenwares from other archaeological sites when future data are available.

APPENDIX III

BRIEF DESCRIPTION OF TRADE POTTERIES, LOCAL EARTHENWARES,
AND OTHER ARTIFACTS ILLUSTRATED

Note. In the following descriptions, the trade potteries are arranged by provenience—Chinese, Siamese, and Annamese. These are followed by the Filipino made earthenwares, and finally by other types of artifacts recovered, such as metal blades. The Chinese potteries furthermore, are arranged in five successive classes: Blue-and-White, Overglaze Enamel, White Wares, Monochromes, and Stonewares.

For ownership, the following symbols have been used: AZ, Alfonso Zóbel; EZ, Enrique Zóbel; FZ, Fernando Zóbel; JRM, J. R. McMicking; RF, Robert Fox; and NM, National Museum. The abbreviations for the sites are: PB, Pulong Bakaw; KT, Kay Tomas; and PBY, Punta Buaya. The number refers to the grave number in Figs. 2 or 3. In some instances, the site from which the piece came was known but there was no grave data, and the symbol "ND" is used; for example, FZ/PB/ND.

The Excavations

Plates 1-21. The descriptions accompany the plates.

Chinese (Blue-and-White)

Plate 22:—A superb two-eared, small jar of spherical form with a green crackled glaze (the crackle darkened) found at Pulong Bakaw by workmen; probably late 14th or early 15th century (Ming) in date (H. 10 cm. D. 10.5 cm. EZ/PB/ND.)

Plate 23-24:—An exceptional small dish from Punta Buaya with flattened foliated rim with wave designs; a chain of stylized leaves and flowers, probably the blackberry lily, in the cavetto; and a central scene of a garden which shows a crane standing on one leg. The outside design includes clouds under the lip and curious spiked leaves associated with lotus flowers. The glazed base has an inscription, as did three other pieces, which Mr. K. H. Huang has translated as "May happiness and emolument come to you." (H. 3.3 cm. D. 14.5 cm. AZ/PBY/ND.)

Plates 25-26:—Two early 15th century plates with flattened, foliated rims, characteristic undecorated cavetto, and variations of a central landscape scene with cranes standing on one leg surrounded by trees and flowers. (Plt. 25: H. 3 cm. D. 19 cm. EZ/PB/ND.) (Plt. 26: H. 2.5 cm. D. 20 cm. FZ/PB/ND.)

Plates 27-28:—Variations of another typical early 15th century plate, the *kylin*. This is a composite animal with bushy tail, deer-like hoofs, and usually drawn looking back over its left shoulder. It is said to symbolize the "Perfect Good." The designs of the common early 15th century plates are invariably misty,

as Professor Beyer has pointed out, due to thick bubbly glaze which is often blue or green-tinted. Within the footrim, however, the glaze is often opaque and milky white. (Plt. 27: H. 3.3 cm. D. 18 cm. FZ/PB/ND.) (Plt. 28: H. 3.5 cm. D. 10.5 cm. AZ/PB/39-A.)

Plates 29-30:—Two further variations of the **kylin** with plain, undecorated rims which were excavated at Punta Buaya. The handling and use of the cobalt-blue pigment in these two plates is that usually described as "Mohammedan Blue." (Plt. 29: H. 4 cm. D. 10.5 cm. AZ/PBY/ND.) (Plt. 30: H. 3.5 cm. D. 19 cm. AZ/PBY/ND.)

Plates 31-32:—Another common subject of the early 15th century plates is the single Chinese lion with streamers. Marked variations in this design are encountered. (Plt. 31: H. 3 cm. D. 17.5 cm. FZ/PB/174-B.) (Plt. 32: H. 3.5 cm. D. 17 cm. FZ/KT/8-A.)

Plates 33-34:—These plates have **two** Chinese lions with swirling streamers forming the central designs. (Plt. 33: H. 4 cm. D. 22.5 cm. JRM/PB/10-B.) (Plt. 34: H. 3.5 cm. D. 17 cm. AZ/PB/ND.)

Plates 35-36:—One of the diagnostic designs appearing on Chinese plates of early 15th century date found in the Philippines features a central scene of a fence and jar, the jar holding a large chrysanthemum, surrounded by two butterflies and clouds (?). (Plt. 35: H. 4 cm. D. 20 cm. FZ/KT/1091-F.) (Plt. 36: H. 3.5 cm. D. 20.5 cm. FZ/KT/1167-A.)

Plates 37-38:—Two early 15th century plates which show variations of a highly stylized landscape scene. The cavetto is decorated with five peonies; the center, with a "fantastic rock" surrounded by four peonies. (Plt. 37: H. 4 cm. D. 21 cm. AZ/PB/ND.) (Plt. 38: H. 3.5 cm. D. 19.5 cm. FZ/KT/1088-D.)

Plate 39:—A relatively rare central design which shows two human figures in a garden and a floral design underlip. (H. 3.5 cm. D. 17.5 cm. NM/KT/1057-D.)

Plate 40:—A shallow plate which features an unusual central design, possibly an insect among flowering plants. (H. 2.5 cm. D. 17 cm. FZ/KT/1215-D.)

Plate 41:—This octycodal design, apparently a single peony (or bud) surrounded on four sides by leaves, was the most common design found on the plates from the burial sites. (H. 4 cm. D. 18.5 cm. AZ/KT/1048-B.)

Plate 42:—(H. 4.5 cm. D. 18.5 cm. RF/KT/1104-C.)

Plates 43-44:—Fish surrounded by water plants form the central design of a number of plates and saucers. (Plt. 43, left: H. 3.5 cm. D. 11.5 cm. JRM/KT/12-1. Plt. 43, right: H. 3.5 cm. D. 10.5 cm. AZ/PB/ND.) (Plt. 44: H. 3.5 cm. D. 17 cm. EZ/PB/ND.)

Plate 45:—A large porcelain plate with exceptional drawing in blue under the glaze, probably 14th century, according to Professor Beyer. The flaring rim

is decorated with waves; the cavetto features clouds and clumps of rocks and plants; and the center design is a lotus pond with rocks and plants in the foreground. (H. 6.7 cm. D. 31 cm. FZ/PB/47-A.)

Plates 46-47:—A Chinese ware characteristic of the late 14th and early 15th century Philippine sites is the "hole-bottom" saucer (named by Professor Beyer) which features raised goldfish in overglaze orange or red enamel surrounded by water plants in underglaze blue. Two sub-types of the "goldfish saucers" were found at Calatagan; one (Plt. 46) has eel grass around the fish, and the other (Plt. 47), a type of water plant. (Plt. 46: H. 4 cm. D. 12.5 cm. AZ/PB/184-B.) (Plt. 47: H. 3.5 cm. D. 12 cm. JRM/PB/113-A.)

Plates 48-49:—Another common design on the "hole-bottom" ware is the Shou Lao or "God of Longevity." Many variations in the drawing of this design are encountered. The saucer in Plt. 49 has a white slip. (Plt. 48: H. 3 cm. D. 12 cm. NM/KT/1020-E.) (Plt. 49: H. 3.5 cm. D. 12 cm. NM/KT/13-A.)

Plate 50:—These hole-bottom saucers feature a bird sitting on a limb and illustrate the difficulty of identifying highly stylized designs (see saucer on the left) unless similar conventional designs are available for comparison. (Left: H. 2.5 cm. D. 10 cm. FZ/PB/ND. Right: H. 3 cm. D. 10 cm. NM/PB/183-A.)

Plate 51:—Other types of hole-bottom saucers with plants as central design (Note the misshapen rim of the piece on the right). (Left: H. 3.5 cm. D. 11.5 cm. FZ/PB/ND. Right: H. 3.5 cm. D. 12 cm. AZ/KT/1169-D.)

Plates 52-53:—This porcelain bowl, found in a midden at Pulung Bakaw, has an unusually clear bluish glaze and, according to Professor Beyer is probably Yung Lo (1403-1424) in date or earlier. The four-character inscription on the base has been translated as: "Everlasting Youth." (H. 6.5 cm. D. 12.5 cm. FZ/PB/Midden-DD.)

Plate 54:—Seven bowls of this type were found in which there was a perfect correlation between a particular form and a design. The center design, within a ring, features a human figure sitting under a tree; the design underlip, horsemen in different actions and small flowers. This design-complex was not found on any other form of bowl or in fact, on any other vessel. It is probably Yung Lo (1403-1424) or earlier in date. (H. 6.5 cm. D. 15 cm. FZ/PB/13-A.)

Plate 55:—This bowl is typical of one of the form classes; flat everted lip, flaring body, and tall footrim which is beveled on the base. The frequent imperfections which are found on the glaze of the trade potteries can be seen on the glaze of this bowl. (H. 5.5 cm. D. 15.5 cm. FZ/PB/ND.)

Plates 56-57:—These are the most common form of bowls excavated at Calatagan, and the erect leaves on the body (probably fern fronds) form the most frequently encountered design on the bodies of the bowls. The erect leaves

underlip are often associated with a shell design in the center, as on the bowl in Plt. 57, and Professor Beyer dates these as Yung Lo. (Plt. 56: H. 7 cm. D. 14 cm. JRM/PB/167-B.) (Plt 57: H. 6 cm. D. 13.5 cm. FZ/PB/136-B.)

Plate 58:—Shallow bowls comprised another common form-class, and there are often associated with the design shown in this illustration. (H. 5 cm. D. 15 cm. NM/KT/1213-A.)

Plate 59:—(H. 6 cm. D. 13 cm. AZ/PB/72-D.)

Plate 60:—Two cups, Yung Lo according to Professor Beyer, which invariably have aquatic plants forming the underlip design. The glazed base of these cups often carry a "potter's mark." The form and underlip design of these blue-and-white cups are practically identical with cups decorated with red, green, and yellow over-glaze enamels also dating from the early 15th century. (Left: H. 3.5 cm. D. 6.5 cm. FZ/KT/1104-D. Right: H. 3.5 cm. D. 6.7 cm. FZ/PB/ND.)

Plate 61:—(H. 6.5 cm. D. 18.5 cm. NM/PB/133-A). Only one swastika design was found.

Plate 62:—**Kendi** of squat spherical form with tapering neck, flange around neck, and mammiform spout; a fine specimen rarely encountered in Philippine sites and not later than the middle of the 15th century, according to Professor Beyer. (H. 14.5 cm. Max. D. 14 cm. JRM/KT/1021-A.)

Plate 63:—**Kendi**. (H. 17.5 cm. Max. D. 12 cm. AZ/KT/1044-.)

Plate 64:—A bottle, the only one recovered during the excavations, which Professor Beyer has dated as "definitely 14th century Ming." (H. 20 cm. D. 11 cm. EZ/KT/17-C.)

Plate 65:—Typical cover bowls from Pulung Bakaw and Kay Tomas. (Left: H. 7.5 cm. D. 7.5 cm. FZ/KT/1104-I. Right: H. 6.5 cm. D. 7.5 cm. FZ/PB/ND.)

Plate 66:—Two small blue-and-white jarlets, the piece on the left having a clear white glaze and "probably made by the Chinese for Indo-Chinese consumption," according to Professor Beyer, "though it may be Indo-Chinese." The classic "cloud collar" or "ju-i pattern" forms the design on the body of the jarlet on the right,¹ and a stylized ju-i surrounds the shoulder of the specimen on the left. (Left: H. 5.9 cm. D. 5.3 cm. FZ/PB/ND.)

Plate 67:—A persimmon shaped cover bowl, cover having stem, "probably made in south China for Indo-Chinese consumption," according to Professor Beyer, "though it is possible that it is Indo-Chinese." The glaze is bubbly and bluish.

¹ Cf. John Alexander Pope, "Fourteenth-Century Blue-and-White: A Group of Chinese Porcelains in the Topkapu Sarayi Muzesi, Istanbul," *Freer Gallery of Art Occasional Papers*, Vol. II, No. 1. Washington, 1952.

Lotus panels which contains alternating diapers and floral designs surround the body. H. 7 cm. D. 7 cm. AZ/KT/ND.)

Plate 68:—Two blue-and-white jarlets, probably from the same south China kiln, which have floral designs within bands around the shoulders. Both have relatively clear, very glassy, bluish glazes. (Left: H. 8 cm. D. 7.5 cm. found in Grave #206 at Pulung Bakaw. Right: EZ/PB/ND.)

Plate 69:—Jarlet of doubtful provenience, possibly Indo-Chinese but more likely made for Indo-Chinese trade. (H. 8 cm. D. 8.5 cm. EZ/KT/1174-A.)

Chinese (Overglaze Enamel)

Plate 70-71:—Two cups from Pulung Bakaw decorated in red and green enamel over the glaze (traces of yellow). The description in underglaze blue on the base of the smaller cup may be translated "happiness," "blissfulness," or "good fortune," according to Mr. K. H. Huwang of the Chinese Embassy in Manila. (Left: H. 7 cm. D. 15 cm. EZ/PB/ND. Right: H. 3.75 cm. D. 6.5 cm. EZ/PB/ND.)

Plates 72-73:—Dish with opaque white glaze on which stylized cloud and floral designs are painted in overglaze red, green, and yellow enamel. In this type of ware, the red and green colors are durable but only traces of yellow usually remain. (H. 4 cm. D. 16.5 cm. NM/PB/123-G.)

Plates 74-75:—Another example of three-color enamel painted over the glaze which also includes a red ring painted on the glazed base, probably to hold an inscription. (H. 4.5 cm. D. 15 cm. FZ/PB/190-B.)

Plate 76:—Two jarlets with a highly stylized lotus floral-scroll painted on the body with overglaze red, green, and yellow enamel, and a stylized ju-i pattern around the shoulder. This design-complex, painted on the jarlets with overglaze enamels, is invariably the same for all jarlets (see Plt. 77) and suggests a common provincial origin. (Left: H. 5.5 cm. D. 5.5 cm. FZ/KT/ND. Right: H. 6.2 cm. D. 6 cm. NM/KT/ND.)

Plate 77:—Small figurine jarlets, pitchers, in which the head of a chicken forms the spout, were found in all of the sites excavated. These are painted with overglaze enamel (red, green, sometimes yellow) on a white or gray-white opaque slip, and the design complex is similar to the plain jarlets. (Right: H. 6.5 cm. max. D. 8.5 cm. EZ/PB/ND. Left: H. 6 cm. D. 6 cm. EZ/PB/ND.)

Chinese (White Wares)

Plate 78:—Two exceptional cups with thin bodies and fine white glazes (the piece on the left is fluted) which Professor Beyer has attributed to the Yung Lo Dynasty (1403-1424).

Plate 79:—The common type and form of white monochromes recovered is illustrated on this plate—small dishes with flaring rims, glazed bases, and glazes

varying in color from white to a grayish-white. The twelve pieces of this type recovered were three or four centimeters in height and varied in width from eleven to sixteen centimeters. Four pieces had blue "potter's marks" under the glaze.

Chinese (Monochromes)

- Plates 80-81:—Characteristic 14th century early Ming celadon dishes from Punta Buaya which usually have stamped or incised designs under the glaze. (AZ/PBY/ND.)
- Plate 82:—Monochrome bowls, early Ming, showing characteristic forms—the piece on the right has an everted lip; on the left, a plain lip.
- Plate 83:—A heavy monochrome bowl which has a thick, opaque, deep-green glaze, and a glazed spot on the center of the base. This bowl has been identified by Professor Beyer as 14th century early Ming or late Yuan from Ch'u Chou, Chehkiang Province. (H. 8.5 cm. D. 19 cm. AZ/KT/1076-D.)
- Plate 84:—The usual form of early Ming monochrome bowls which have raised centers, "bumps"—this latter characteristic being associated by Professor Beyer with the "Yung Lo Dynasty or earlier." (H. 5cm. D. 13 cm. FZ/KT/1090-D)
- Plate 85:—Early Ming monochrome saucer with bubbly olive-green glaze, tall footrim, and designs incised on the body under the glaze. (H. 5 cm. D 13.5 cm. EZ/PB/ND.)
- Plates 86-87:—Two typical bowls with a continuous petal-like design incised under the glaze on the bodies; a very common 15th century type. These have glassy light-green glazes; a glaze, according to Professor Beyer, which may have been copied by the Chinese from the Siamese in order to counteract the success of the Siamese trade. (Plt. 86: H. 5 cm. D. 15.5 cm. FZ/PB/ND. Plt. 87: EZ/PB/ND.)
- Plate 88:—A footed bowl with a gray glaze called "Fukienese Ware" by Professor Beyer and dated as belonging to the Yuan Dynasty (1280-1368) and "possibly 13th century." (H. 6 cm. D. 16.5 cm.)
- Plates 89:—Another type of "Fukienese Ware."
- Plates 80-91:—A type of Chinese plate with small footrim and unglazed ring in center frequently encountered in Calatagan sites.
- Plate 92:—A fine jar which has a thin, greenish-brown glaze. (H. 12 cm. D. 11 cm. FZ/KT/1044-B.)
- Plate 93:—Cover bowl which has two ears, a crazed, glassy, blue-green glaze, and an unglazed base. (H. 10 cm. D. 10.5 cm. FZ/KT/ND.)
- Plate 94:—The footed jarlet on the right has a white glassy glaze with a slight greenish tinge and is of unusual form. According to Professor Beyer, it is

"probably Chinese." The specimen on the left is Indo-Chinese or Annamese, and will be discussed below. (Right: H. 4.75 cm. D. 7 cm. AZ/KT/1211-B.)

Plate 95:—Monochrome jarlet characterized by a reddish body and an olive-green, crazed glaze, as well as distinct bands around the body under the glaze. (H. 7.5 cm. D. 9 cm. FZ/PB/ND.)

Plate 96:—Two small stoneware pitchers with brown glaze; their provenience is doubtful but they are either from south China or Indo-China. (Left: H. 8.5 cm. FZ/KT/ND.)

Plate 97:—Tall stoneware pitcher with incised floral designs around body and a stylized "ju-i pattern" around mouth, under a green glaze. The handle has a yellow glaze (It was found with a small dome-shaped blue-and-white cover.) (H. 12.5 cm. EZ/PB/ND.)

Plate 98:—A unique light stoneware cover-bowl with an apple-green glaze on body and a yellow glaze on the knob of the cover (H. 8 cm. D. 8 cm. NM/KT/ND.)

Plate 99:—A *Kendi* with unusual dark green glaze over a blue-black floral-scroll design; a light stoneware body. H. 18.5 cm. D. 15 cm. FZ/PB/ND.)

Plate 100:—A "Persian-form" pitcher (spout missing) with an apple-green glaze which has eroded as a result of burial. (H. 16 cm. AZ/KT/ND.)

Plate 101:—Stoneware vessel with three ears and spout, slightly concave bands around the body, and an irregular brown glaze. (H. 15.5 cm. D. 15.5 cm. NM/PB/189-B.)

Plate 102:—Stoneware jar with two ears, brown glaze about one-half way down on the body, and concave bands running horizontally around the body. (H. 16 cm. D. 15.5 cm. FZ/PB/ND.)

Plate 103:—Jar of unusual form with a defective olive-brown glaze and heavy glaze-teardrops. Provenience doubtful; it may be Sawankhaik. (H. 20 cm. D. 21 cm.)

Plate 104:—Stoneware jar with four ears and a fine light golden-brown glaze partially eroded from burial. (H. 21 cm. D. 18 cm. FZ/PB/113-E.)

Plate 105:—Large reconstructed stoneware jar with brown glaze which features, raised in relief, human figures in various activities; a man leading a horseman, flag bearer, and other figures apparently engaged in agricultural activities. The lower part of the body has a dull, red-brown glaze. (H. 73 cm. EZ/PB/ND.)

Plate 106:—Stoneware jar (reconstructed) with brown glaze, partially eroded, and boating—river scene raised in relief on the body. A cover was found with this jar which has a handle formed like the body of a lion. (H. 68 cm. NM/PB/64-a.)

Plate 107:—Reconstructed stoneware jar with brown glaze and dragon incised on the body.

Sawankhalok

Plate 108:—Superb black and white cover bowl with clear glaze over a grayish stoneware body; the knob of the cover is shaped in the form of a bird. (H. 11.5 cm. D. 10.5 cm. JRM/PB/57-C.)

Plate 109:—Size and form variations of the tall bottle-necked, two-eared jarlets which have irregular brown glazes and heavy glaze-teardrops. This is one of the most common types of Sawankhalok trade potteries. The piece on the left is 15 centimeters in height.

Plate 110:—Bottle-necked, two-eared jarlets which have celadon-like opaque glazes, usually gray-green. The piece on the left is 13 centimeters in height.

Plate 111:—Size and form variations of the two-eared jarlets of double gourd form which generally have dark brown glazes. The specimen on the left, the largest one found, is 11.5 cm. in height, but the usual height is seven or eight centimeters.

Plate 112:—Spherical, footed jarlets which have brown glazes and teardrops; not a common form. The jarlet on the left is eight centimeters in height.

Plate 113:—Unusually shaped two-eared jarlet which has a straight neck and an olive-green glaze. The bases of the Sawankhalok jarlets are **not** glazed. (H. 9.5 cm. D. 7 cm. AZ/PBY/ND)

Plate 114:—A two-eared, bottle-necked jarlet of a unique form, being represented by a single specimen. The glaze is gray-green. (H. 12.5 cm. D. 7.5 cm. AZ/PBY/ND.)

Plate 115:—A relatively rare jarlet of single-gourd form which has a discolored brown glaze over the upper part of the body. (H. 7 cm. D. 5 cm. FZ/KT/ND.)

Plate 116:—A two-eared jarlet which has vertical and horizontal incised lines under a heavy brown glaze. (H. 14 cm. D. 10 cm. EZ/PB/ND.)

Plate 117:—Small, spherical, footed jarlets which have opaque greyish-white glazes; the center piece being 5.5 centimeters in height.

Plate 118:—A rare, four-eared, cover jar with an opaque greyish-white glaze over upperbody and red-brown glaze over lower body, excluding the base. (H. 16 cm. D. 15 cm. EZ/PB/ND.)

Plate 119:—A spherical jarlet which has a relatively tall neck and a thick, opaque, white glaze and teardrops. (Approximately actual size. FZ/KT/7-A). Note the imperfections in the glaze.

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- Plate 121:—Unusual cover bowl with seven sides found at Pulong Bakaw. (H. 9.5 cm. D. 11 cm. EZ/PB/ND.)
- Plate 122:—Large black and white cover bowl of unusual quality, the cover having the pagoda-like knob which is found on most of the cover bowls. (H. 12.5 cm. D. 14.5 cm. FZ/KT/1170-B.)
- Plate 123:—Left: Black and white cover bowl, the top having no knob. (H. 8.5 cm. D. 10.5 cm. EZ/PB/ND.) Right: Very small jarlets of spherical form, one being found at Pulong Bakaw and the other, at Kay Tomas. The small jarlet on the left found at Kay Tomas and in Enrique Zóbel's collection is 4.0 centimeters in height and diameter.
- Plate 124:—An usual yellow-brown and white glazed cover bowl, the only piece of this type recovered, in which the patterns (the lighter portion) are carved on the surface of the ware, and the carved designs glazed white. (H. 7.5 cm. D. 9.5 cm. AZ/PB/ND.)
- Plates 125-126:—Black and white bottles, both with broken necks, found at Pulong Bakaw. (Plt. 125: H. Est. 12 cm. D. 11.5 cm. NM/PB/57-D. Plt. 126: H. Est. 13.5 cm. D. 9.5 cm. FZ/PB/ND.)
- Plate 127:—Squat stoneware jarlet with bottle neck, flaring lip, and dark gray glaze on body; questionable provenience, but it is probably Siamese. (H. 9.5 cm. D. 9 cm. FZ/PB/ND.)
- Plate 128:—Unusual cover bowl (cover missing) which has a marked footrim, celadon-like green glaze, both on the inside and outside of the body, and incised designs under the glaze. (H. 8 cm. D. 9 cm. AZ/KT/22-A.)
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- Plate 131-132:—Center and profile illustrations of a small Sawankhalok cup with glassy blue-green glaze, the design on the body formed by flute-like impressions. Recovered by workmen at Punta Buaya.
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Annamese

Plate 136:—Squat spherical jarlet with an opaque white glaze and an overglaze enamel floral-scroll on the body in two colors, red and green (no trace of yellow), and a ju-i pattern around the neck. (H. 7 cm. D. 8 cm. AZ/PB/ND.)

Plate 137:—Typical Annamese blue-and-white cover bowl which has traces of an overglaze silver paint. (H. 4.5 cm. D. 6.5 cm. PRM/PB/20^a-C.)

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Plate 84:—The piece on the left, a jarlet of squat spherical form, is also of Annamese provenience, according to Professor Beyer. It has an opaque, crazed, white glaze with a greenish tinge. (H. 7.5 cm. D. 10 cm. JRM/KT/1016-C.)

Philippine Earthenware

Plates 139-161:—A preliminary typology of the earthenware is presented in Appendix I, and Fig. 20 gives the plate numbers of the illustrations which are correlated with the types of the vessels and their forms; hence descriptions of the earthenware are not presented here.

Metal Objects

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Philippine Stone Statuary

Plate 165:—Stone figure made from brain-coral which was found by workmen in a grave at Punta Buaya. (H. 17 cm. D. 12. cm.)

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