Johore Lama
Twice Destroyed Malay Fortress

by

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Archaeological research of one kind or another has been underway in Malaya for nearly 100 years. During this period of time there have been great changes in archaeological methods and even in the purposes of archaeology. Early digging, from today's point of view, was extremely unscientific and not well documented. In the next 100 years there will be further change and today's excavations will then be considered unscientific; however, today's excavations can be well documented.

This report is the first of a series of reports which will document the archaeological research on Johore Lama. It explains briefly the process of the excavation; how it was done and why it was done in that way. A preliminary scientific report will present a summary of previous work on the site and what was found during the excavation. The final report will describe in detail the findings and place them and the site of Johore Lama in relationship to other sites on the Johore River and to the early history of Malaya.

In January 1960 I was informed by the United States Department of State that the Department of External Affairs of the Federation of Malaya inquired whether it would be possible to have my services for a few months. If I accepted I would:

1) help the archaeological team of the National Museum in the excavation, clearance and reconstruction of the ancient fort at Johore Lama;

2) make recommendations for future archaeological work in Malaya after looking over archaeological sites and resources in Malaya; and

3) begin a study of the locally made "Malayan" pottery (my own particular interest and competence is locally made earthenware pottery of South East Asia).

I accepted this invitation. By the middle of February I was on my way to Malaya under the American Specialists Programme of the United States Department of State.

Three days after my arrival in Kuala Lumpur on the 29th of February I was on my way to Johore Lama with Mr. Mubin Sheppard, Director of Museums, and Mr. John Matthews, the Curator of Museums. From this visit the preliminary plans for excavation were made, and preliminary work on the site was started.

At this point of Mr. G. A. Hodgson enters the picture. Mr. Hodgson is the manager of the Sungei Kong Kong Estate, a rubber estate across the Johore River from Johore Lama. He made many of the necessary local arrangements for the excavations and has at all times been of inestimable help. He is the best example of what an intelligent layman can do to help the professional archaeologist. On this subject I must digress briefly.

The layman with an interest in the history or prehistory of Malaya can be of great help in working out the
View of the interior of the Fort, showing men clearing two gun embrasures in the South wall.

archaeology of Malaya, as long as he has forbearance. **He must not excavate!** If he does, he does irreparable damage. Without unlimited funds, archaeologists depend to a considerable degree on information received from the interested layman for the location of sites. Many important archaeological sites are discovered in digging a garden, in sinking a well or house post, or in ploughing a field. When a non-professional discovers archaeological remains such as a number of broken pieces of pottery in his digging or eroding out of a hill, river side, or in a cave, he should make a **small** representative collection and then carefully note the location. This collection with information on its general location should then be sent to a responsible archaeological authority such as the Federation Director of Museums or the Head of the Department of History of the University of Malaya in Kuala Lumpur. If the finds are of interest, further arrangements will then be made under the provisions of the Antiquities Ordinance. If excavation is desirable, a competent archaeologist from one of these institutions can proceed. As will be seen shortly, the information recovered from a properly conducted excavation is of considerably more importance than the objects (artifacts) recovered and without the associated information the artifacts are of only passing interest. When an archaeological site is excavated it is destroyed; that is the digging does away with the extremely valuable information leaving only the artifacts themselves, and they can not in themselves tell their story.

Returning to Johore Lama, arrangements were made with Mr. Hodgson for clearing the portion of the site in which we were interested. Housing arrangements were made for myself and Mr. Matthews, who would provide the direction for the archaeological work, and for 4 Museum Assistants who, because of previous experience, could be directly in charge of detailed excavation and other archaeological tasks. Finally a Malay labour force was lined up with the help of the Ketua Kampong, to work under a local foreman.

*Before starting the excavation it was necessary to plan an attack. There must be a good reason behind the moving of every bit of earth. Back*
The excavated wall in trench A. To the right are the large shaped stones on the outer face of the wall; in the centre cut coral blocks.

in Kuala Lumpur previously published information on Johore Lama and on the brief excavations carried out in 1953 were gone over in detail and a flexible plan was worked out by Mr. Matthews and myself. After our first few days at Johore Lama we went to Singapore to consult with Dr. Gibson-Hill, who had taken part in the previous expedition and had since that time done considerable historical research on that site and other related sites on the Johore River.

We now had a rough idea of what to expect, and thus what to look for. We knew that the fortified site at Johore Lama had been built by a Sultan of Johore in about 1547, shortly after the fall of Malacca. It was built next to an already existing Kampong. About 1564 the capital city inside the fortifications was destroyed by the Achinese. After a few years desertion the fortification was reoccupied and then destroyed a second time by the Portuguese in 1587. It was then abandoned as a capital city of the Johore Sultanate, though occasional mention of the site shows that the Kampong continued in existence. We were now ready to proceed with the excavation.

The purpose of a particular archaeological excavation combined with the type of archaeological site to be excavated determines how and where to go about digging. The primary purpose of our archaeological work at Johore Lama was to restore a portion of the fortified city to graphically illustrate a segment of Malayan history. This presented one major problem of excavation; we must find out as closely as possible what the portion to be restored looked like at some stage during its main occupation. Secondary problems, such as examining the locally made pottery of the time when the city was in use (my particular interest), must be answered within the framework set out by the primary problem.

The first thing to decide was what could logically be restored and then how to best arrange the digging in that area. From the general plan of the fortified area, which had been
worked out previously (Fig. 1), the most obviously restorable location was the rectangular space towards the south west corner of the fortified area. From the work done in 1953 we knew that there was some sort of stone wall beneath the earth rampart and that probably there were a series of gun emplacements along this wall. The position of this area on a hill overlooking the river in 3 directions, combined with historical information, indicated that this was probably the main strong point of the fortified city; in other words it was a fort.

Before starting extensive excavations it was necessary to have more clearing done on this site. The major share of the locally hired labour during the first two weeks of our work was used to clear away the growth inside the fort and for a surrounding area large enough to give a good idea of what surface conditions would have been like when the fort was in use. Previous to this clearance the fort and surrounding area were covered with varying degrees of secondary jungle on which stood a few fruit trees and rubber trees.

In order to accurately restore the fort it would be necessary to know what the wall had been like in relationship to the surrounding terrain and the details of the gun emplacements. Thus it would be necessary to cut at least one complete cross section of the wall; to determine the extent of the stone portion of the wall several trenches would be needed and it would be necessary to carefully excavate at least one of the undisturbed gun platforms.

The location for the cross section of the wall was decided for us as previous digging had breached the wall at an angle at the northwest corner of the fort. Making use of this work would save us time and by using the corner would give us a double cross section of the wall as well as enabling us to examine the construction of a corner—a more complex problem in construction for the original builders than the straight wall. To take full advantage of previous earth and stone removal resulted in an excavation complex in plan (Fig. 2)A but not in execution.

To determine the extent of the wall laterally, vertically and horizontally, five trenches were excavated from the outside of the wall and two from the
In the actual excavation, I took personal charge of the excavating at the northwest corner, doing much of it myself, but receiving the assistance of one of the Museum technicians and one to three labourers. Mr. Matthews took overall charge of all the other excavation and the clearing. Under him two Museum Assistants were in charge of specific excavation teams while one Assistant was in charge of keeping the field notes with our help and the Museum Artist worked with us in drawing the necessary sections of the trench walls. Mr. Matthews and I jointly made the overall day to day plans for excavation.

One major task undone was the detailed map of the fort including exact locations of the excavations.

Without this map the results from the excavations could not be accurately arrived at. It would have been very desirable to have had the map made during the excavation but because of circumstances beyond our control this was impossible. Happily arrangements were made with the Survey Department of Johore, and a detailed map was drawn up by Mr. Madgwick, shortly following the termination of our preliminary excavations.

Full results of the 4 weeks excavations at Johore Lama will not be known for some time. A generalisation concerning the relationship of time spent in excavation to time spent in the Laboratory studying the results of the excavation is one day in the field to three in the Laboratory. That is

![Fig. 3. An idealised cross-section through the fort-wall.](image)

1. Sub-soil.
2. Layer of ash from 1564 attack.
3. Layer of ash from 1787 attack.
4. Earth wall of fort.
5. Stone wall supporting earth wall.
for the 4 weeks excavation it will require two to three months full time Laboratory work before the full results are known. Then follows the publication of the results of the excavation.

However, a number of obvious results were noted during excavation. Very briefly, the most important of these were: The stone wall is about 8 feet thick and is separated from the earth rampart on top of it by an inch-and-a-half to two inch thick seal of plaster. At the corner there is a stone facing 3 feet high on the outside face made of large cut blocks of “older aluvium”. The number of courses of this finished stone facing varies considerably. Inside the wall there is a less deep stone facing of the same type. The wall is filled primarily with smaller cut coral stone blocks. Below the cut stone facing, at the corner there are 3 feet of foundation of rough rock. This foundation is not as deep below other portions of the wall.

The trenches on both sides of the wall clearly showed 2 distinct layers of charcoal (Fig. 3) representing the 2 destructions of the fort. Thus the layers (strata) of earth between these two layers must have dated from between 1564 and 1587 and anything found between those two layers would definitely have come to rest therein during that time. Anything found below the bottom charcoal layer came to be there between the time the fort was built and its first destruction. This presents an unusually accurate dating for any artifacts found below or between the charcoal layers.

The excavation of the gun emplacements showed that they had been gun embrasures, supported by cut stone and probably lined with wood. The embrasures were narrow on the outside of the wall and much wider on the inside. Excavation of the second embrasure revealed a stone lintel which had capped the opening, and a heavy charcoal layer inside the embrasure indicating the wood lining. A number of stone and iron cannon balls were associated with the second excavated embrasure. In trench E were other cannon balls probably associated with the unexcavated embrasure immediately to the north of that trench.

Iron, stone and pottery sherds (both porcelain and earthenware) found in the excavations will tell us much more about the people that used the fort. Careful study of sections drawn by the Museum Artist should explain the purpose of the many post holes found both outside and inside the walls. There was probably some sort of wooden superstructure connected with the gun embrasures and possibly with the whole wall. Only the Laboratory study of the recovered remains and the exact special relationship to each other can tell the story of the fort, of the life that went on within its walls, and its destruction.