

## Excavations at Sisupalgarh, 2008

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### Abstract

The Early Historic urban site of Sisupalgarh is a large settlement that preserves many patterns of domestic and monumental architecture. Research in 2008 was focused on two areas of monumental architecture: the rampart that surrounds the urban core and encloses an area over one square km in size, and the central pillar mound where the portions excavated exposed an additional 18 previously-unknown monolithic pillars of laterite that formed what may have been a large apsidal structure. These activities are indicative of centralized control of large public structures, in contrast to the domestic structures which varied in their orientation, layout, size, and construction materials.

### Introduction

Sisupalgarh is a fortified Early Historic city in eastern Orissa located on the southeastern edge of modern Bhubaneswar. Initially investigated by Lal (1949, 1991), the site is formally delineated by a rampart and moat enclosing over 1 km<sup>2</sup> of ancient habitation. This project was developed to assess the economic and social conditions of early urbanism in the Indian subcontinent. The investigations started with a systematic survey programme (Smith 2002a, 2002b, 2003, 2005) followed by excavations and geophysical survey starting in 2005 (Mohanty and Smith 2006, 2008; Mohanty *et al.* 2007a, Mohanty *et al.* 2007b; Smith and Mohanty 2006-07, 2007).

The fieldwork described here was conducted from January to February 2008 jointly by R.K. Mohanty and Monica L. Smith under the permission of the Government of India and in collaboration with the Archaeological Survey of India (Fig. 1). Excavations were undertaken in two areas: an extension of the trench across the northern rampart first started in 2007; and several trenches in the area of monumental pillar architecture in the centre-west of the rampart's interior.

#### *Excavation of the Northern Rampart*

In 2007, a long trench was excavated across the northern rampart as an extension of a horizontal exposure of ancient habitation. This trench, which revealed numerous stages of construction in the rampart area including two substantial brick walls, was not excavated to virgin soil by the end of the season. In the 2008 season we therefore placed a small

trench on the exterior face of the rampart measuring 2x4 m to extend the known depth of the rampart on this northern side.

In the course of the 2008 excavation, water was encountered twice. Dampness was first seen emerging in the bottom of the trench at 3.7 m below starting depth, after a 30 cm layer of pounded laterite gravel. Because we were on the exterior of the rampart, this dampness did not appear to be coming from the underlying deposits, as had been the case with the elevated water table in the area of the deep soundings on the interior of the rampart in 2006 and 2007. Instead, the water at 3.7 m seems to be the result of the draining of the upper rampart deposits, perhaps percolating through the thick layer of laterite gravel. Our assessment of this water was further supported by the fact that it dried up after a few days as though the source was extinguished. This contrasted with our experiences in excavating in the habitation areas, where water never subsided once the site's high water table was reached. After about two weeks we returned to the rampart trench for further digging. Water was again encountered at 4.7 m; in this case the water probably corresponded to the underlying water table. Although the cultural deposits continued below this level, the trench was closed due to the collapse of the lower layers.

The section showed that there were many successive layers of rampart augmentation throughout the site's lifespan (Fig. 2). Although the 2007 excavations of the adjacent rampart strip had shown that there was substantial baked-brick architecture at the apex of the rampart, the remainder of the rampart fill as seen in the 2008 trench mostly consisted of simple earthen filling with very few fragments of bricks. Several laterite blocks in the 25 cm size range were also recovered in the trench, although these were not articulated into any kind of architectural arrangement. Towards the bottom of the sequence there

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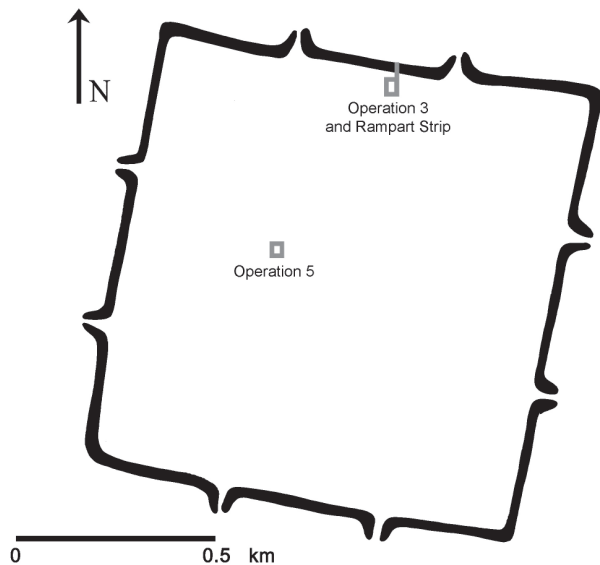


Fig. 1: Location of excavated areas of Sisupalgarh in 2008

was a pronounced layer of red laterite gravel interspersed with bands of grey clay. Our excavations show that the area of the ancient rampart continues to slope downwards under the adjacent fields. The observation that the full height and width of the rampart is still unknown has implications for calculating rampart volume on the basis of the current configuration; clearly the rampart was much larger than the area that we currently see in this still-impressive structure.

The pottery from the 2008 rampart excavations corresponded to the patterns seen in the habitation excavations and deep soundings. The upper levels consist of oxidized (red) sandy wares with rapid decorations such as appliqué thumb-print and rope designs. The dominant shapes are small jars, medium-sized jars, large jars, bowls with a thickened rim, bowls with a ledge rim, and large quantities of string-cut cups. The lowermost levels of the 2008 rampart trench contained a purely early ceramic assemblage, signalling that the rampart was constructed starting in the first part of the site's occupation (as had also been noticed by B.B. Lal on the western rampart; see Lal 1949). The pottery from the first half of the site's occupation consists of high-fired burnished wares in both reduced (black) and oxidized (red) paste. The pottery designs in this lower section of the rampart include what has been described as "knobbed ware," consisting of a single small bump on the interior of the black-slipped flattened bowl.

#### Operation 5: Excavation of the Pillar Area

The monumental pillar area of Sisupalgarh is one of the most dramatic examples of standing architecture in an ancient urban centre. There are several groups of pillars at

the site that include standing remains, of which the most prominent is a row of ten standing pillars (of which one is truncated) measuring up to 4 m in height above the surrounding plowzone. Another group consists of 4 pillars in haphazard arrangement on top of an adjacent mound 30 m to the south of the pillar row. Although the current layout of the known pillars makes it difficult to reconstruct the original structure, the geophysical survey of 2007 showed that the entire collection of pillars was surrounded by a rectilinear anomaly suggestive of a wall or cleared precinct around the monumental pillar architecture.

Towards the end of the 2007 field season, we excavated a 3 x 3 m trial trench on the upper portion of the mound and recovered the bases of two additional pillars (Fig. 3). Based on this trial trench we recognized that there might be many more as-yet unknown pillars that remain buried. In the beginning of the 2008 season, we again investigated this area and opened several trenches on the pillar mound to achieve both horizontal and vertical exposure (Fig. 4). The excavation was undertaken to address three specific research questions: to find out the architectural form represented by the current standing pillars, to discern whether the pillar mound's elevation preserved intact occupational or use-life deposits compared to the lower-lying and often waterlogged habitation areas investigated elsewhere, and to determine the use of the area prior to the development of the pillar architecture.

Four separate open horizontal trenches were placed in the area of the pillar mound, summarized as follows: 1) a trench in the area of the standing pillars on the easternmost side of the elevated mound, where we recovered the remains of 18 previously-unknown pillars and pillar fragments; 2) a trench in the centre-north of the elevated pillar mound to investigate a large rectilinear structure revealed by the geophysical research of 2007; 3) a trench in the centre-west of the pillar mound which revealed a rectilinear structure with the long axis east-west; and 4) an isolated trench in the flat fields to the south of the pillar mound which revealed several large laterite blocks laid flat.

To provide consistency with the previous excavations by our team, recording of excavated material was undertaken using a locus system (Harris Matrix) in which each arbitrary unit or integral stratigraphic unit (e.g. change of fill or feature) was given a number and recorded on a separate sheet. Each trench supervisor also completed a brief summary trench report at the end of the field season. Ceramics were collected per locus in gunny sacks. The ceramics collection bags were weighed in the field with a hand-held spring scale and the total weight as well as number of bags noted on the locus form. This enabled a quick verification of the number of bags expected in the pottery sorting yard and also provided immediately-accessible data about the relative quantities of materials

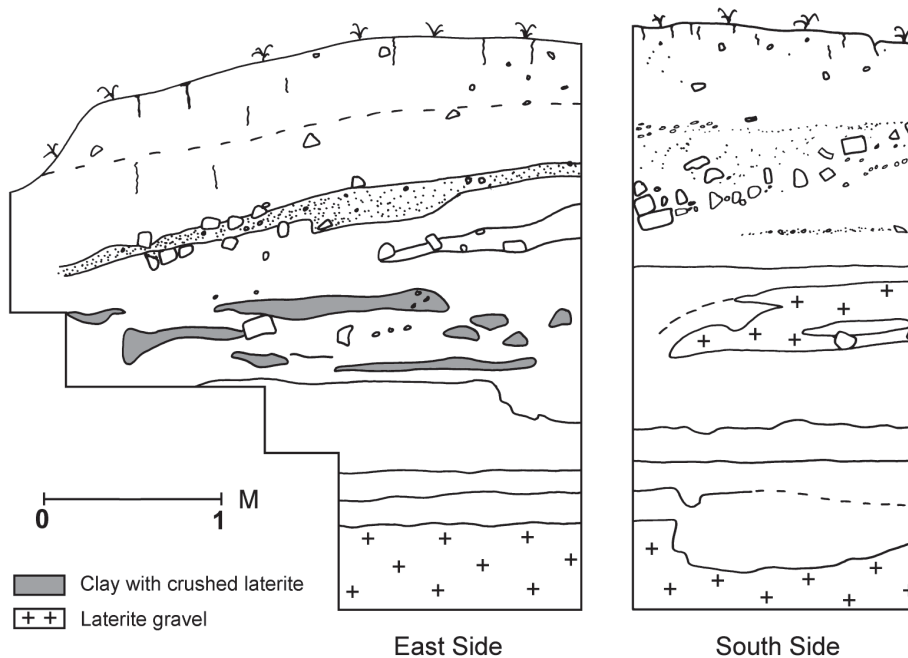


Fig. 2: Upper section of rampart excavation, 2008

found in different parts of the trench. Tags were made using a rubber stamp and permanent ink on pieces of Tyvek, a plastic waterproof “paper.”

The pillar mound excavations were started at the uppermost portion of the mound (note that the trenches were not placed immediately adjacent to the standing pillars in order to preserve their stability). The orientation of the trench line was not strictly magnetic north-south but was aligned to the orientation of the pillars, resulting in an orientation of the trench at 10.5 degrees west of north as measured by Brunton compass. Removal of soil from this area revealed a deposit comprised of about 8-10% brick (in the 10 cm size range) and tile (in the 5 cm size range); in the centre of the trench there was a higher proportion of tile fragments, up to 15-20% of the soil. Even at 75 cm below modern ground surface, there were still rodent/insect holes in the 10 cm size range, indicating that the top of the pillar mound area is less compact than the area of the 2007 test trench to the west. Moreover, the local landowner indicated that some of the mounding was due to the activities of farmers piling debris from the edges of the field. This means that the formation of the pillar mound is contrary to the practice observed elsewhere in India of farmers who trim the edges of mounds and spread the materials down into the fields.

At 80 cm below the top of the mound, excavation revealed the presence of several thousand quartzite pebbles in a 10-15 cm thick layer that appear to correspond to a floor or flooring preparation throughout the area of the standing pillars (Fig. 5). Adjacent to one of the still-

standing pillars was found a very large laterite slab that appears to have functioned as a door sill. On one side was a carved white sandstone piece that functioned as a flanking element on one side of the doorway or passage; although likely to have been one of a pair, there was no sign of a corresponding stone on the other side.

The 2008 excavations showed that the long-standing and newly-exposed laterite pillars revealed an arrangement that was a combination of rows and a circle (Figs. 6 and 7). Prior to excavation the area that turned out to be circular had a very slight inward slope as though shaped like a shallow bowl. The upper fill of this area was also extremely silty and contained no artefacts. The removal of the silty material revealed a fill of brick and tile fragments in a compact arrangement. Further investigation showed the presence of what appears to have been a brick construction that collapsed inwards. This brick construction was not fully exposed in the 2008 season but appears to have been relatively small, in the range of 2 to 2.5 m in diameter, with a central area of the collapse containing a very sandy and comparative loose material. There was no pottery in this sandy material, and the bricks exposed in this central portion of the circle appear to have simply fallen into place without subsequent disruption or robbing.

In total, the excavation team recovered the remains of pillar bases and fragments representing 18 previously-unknown pillars. The configuration of the structure appears to include a long entryway of paired monumental pillars of 72-74 cm diameter. On the western side of these two rows



Fig. 3: Trial trench of 2007, reopened and excavated to a greater depth in 2008

of pillars was an area of pillars measuring 60-62 cm in diameter arranged in a circular pattern. Those pillars also were surrounded by a curved wall that suggested a circular or apsidal structure of at least two building phases. The expertise required to cut, transport and erect the pillars, many of which were over 4 m in length, would have been very impressive in any era but particularly in a pre-mechanical age. It is not yet clear what the underlying structural support of the pillars consisted of, and whether the pillars were lowered into a socket. In any case given the great weight of the pillars it is rather remarkable that many of them remain standing.

Continued excavation in the area of the circular arrangement revealed a lower curved wall made of curved laterite blocks with vertical holes carved into them as if to support posts. This set of curved laterite blocks appeared at 160 cm below modern ground surface, and forms a smaller circle within the outline of the circular pillar arrangement. The lower curved feature may represent an earlier, smaller structure which was later enlarged and embellished with the monumental pillars. Towards the bottom of this trench there were sandstone pieces in the 10-15 cm size range that are visible starting 40 cm below the level of the curved blocks with postholes, but at this point water began seeping into the trench, because of which the excavation was stopped.

#### *Excavation of the large rectilinear structure adjacent to the pillars*

To the north and west of the pillar area was placed a trench PK11/PL11/PM11 to investigate a large rectilinear feature observed through both the geophysical survey and by some traces of ancient architecture visible on the ground. The

directly around structures, leaving little opportunity to investigate the empty spaces between structures as had been done in Operation 3. However, the excavation of PK11 offers some support for the idea that the “open” areas around structures in this part of the site were not used for the same purposes as in the habitation areas. Although the adjoining trenches PL11 and PM11 had laterite block rooms, PK11 had neither architectural remains nor any sign of debris or discard. Instead, this trench had an orange-brown soil that included thousands of small brick flecks.

#### *Excavation of a rectilinear structure west of the pillars*

In the western portion of the mound and 30 m from the pillars was a slight rise that appeared after vegetation clearance to be the location of intact structural remains. Excavation in this area revealed a structure made of laterite blocks and bricks divided into several small rooms, some of which measured as small as 0.8 x 3.05 m (Fig. 9). The laterite blocks of the structure appear to have had two phases of construction, with carefully laid blocks of similar size on the bottom, followed by a later addition of irregular blocks with less care in placement. In some cases there was brick on top of laterite block, similar to the style of construction found in the upper layers of the Operation 1 habitation area on the western portion of the site and the Operation 3 habitation area on the northern part of the site (see previous excavation reports). However, in the case of the pillar mound structure, the brick is somewhat better preserved, with two courses of bricks over the laterite block.

The fill of the upper portions of the trench also was similar to the conditions of the habitation excavations



trench confirmed the existence of a large structure and revealed details on three very robust adjoining rooms. The rooms had interior diameters measuring 2.1 x 2.6 m, 2.35 x 2.45 m, and 2.35 x 2.5 m.

One of the rooms (PL11) was excavated completely, revealing up to seven courses of laterite blocks (Fig. 8). This “room” had very compact fill which suggests that it was a packed foundation for a taller facility. The compacted fill was not the simple result of deposits settling naturally, as the fill became looser towards the bottom of the room, just above the lowest of the seven courses of laterite blocks. The fill was primarily very compact laterite gravel but there were occasional displaced fragments of laterite and chunks of plaster at odd angles. This suggests that plaster flooring had already been used in the vicinity of the pillar mound long enough to become discarded and suitable for building fill by the time of the construction of the room PL11. One analogue to the very robust architecture of the PL11 room might be found in the excavated gateway on the western side of the site, where numerous courses of laterite blocks were stacked up to form the passageway (Lal 1949). The builders of the PL11 room appear to have had less concern with overall stability, as the stones of the walls were laid in a non-overlapping manner. The structure thus achieved stability through the sheer mass of the architectural elements.

Our excavations in the PL11 trench continued below the level of the walls, where we found alternating thin layers of grey clay and laterite gravel. In the area below the laterite walls there were also emergent patches of dark gray material, which might have been burnt material or discoloured soil. At 50 cm below the bottom of the laterite walls a jumble of bricks was found suggestive of a lower structural layer. Excavation ended at this point because it would have been difficult to remove these bricks and retain sufficient working space in the restricted area of the now-pedestaled standing walls.

The very close proximity of the apsidal structure to the massive rectangular structure of PL11/PM11 may indicate that the design and construction was undertaken by two different architects or two different sets of builders. The space between these two structures measures a maximum of 2.5 m, wide enough for only two people to pass easily. Another indicator of what might have been two different building crews with different levels of oversight is that the “rooms” of PL11/PM11 had slightly different kinds of fill: In PM11-18, the room on the western side of PM, there are brick and tiles in the 2-8 cm size range, comprising about 5% of the assemblage. In the area of PM11-17 which is the eastern room of this area, the matrix is comprised of brick and tile fragments in the 2-10 cm size range about 15% of the assemblage, so the two areas are not equal in the amount or type of packing within the walls of the structure. The fill of PM11 also had several unusual stone items

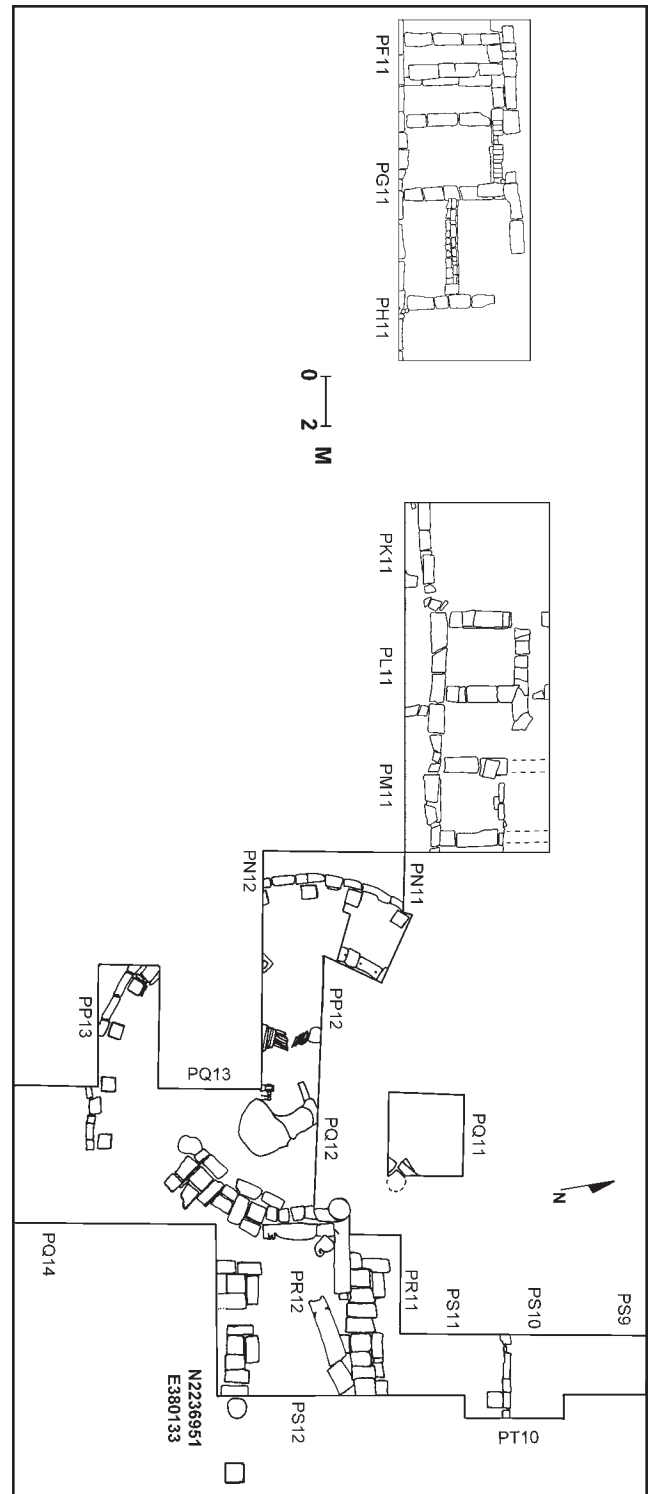


Fig. 4: Trench layout on the pillar mound, Sisupalgarh

including a curved laterite block measuring at least 60 cm tall leaning against the laterite wall, and two “doughnut” shaped pieces of sandstone each measuring 18 cm found tumbled into the fill.

In the area of both PF11/PG11/PH11 and the PK11/PL11/PM11 trenches, most of the excavated area was

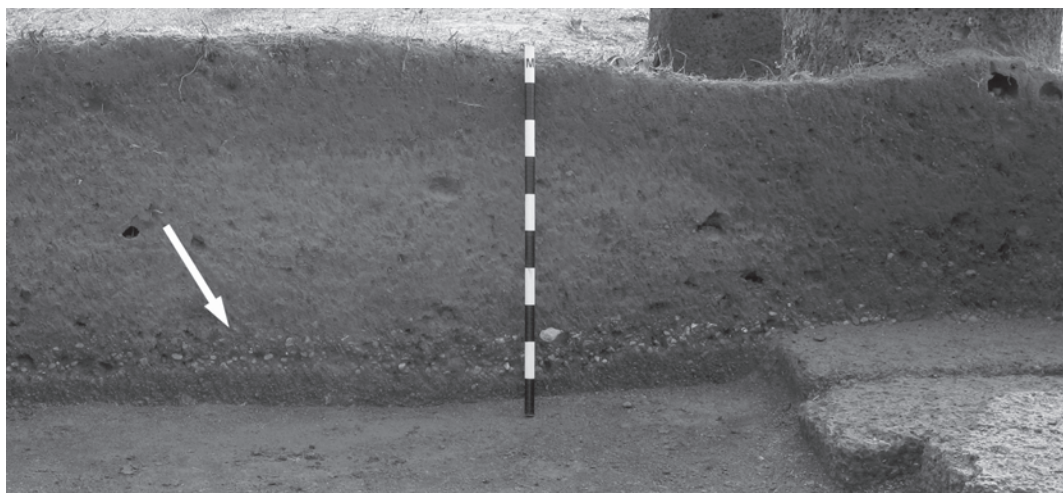


Fig. 5: Layer of quartzite pebbles adjacent to pillars, probably representative of a floor

elsewhere in the site. There was a much larger quantity of pottery collected in the PG11 trench than for any area adjacent to the pillar mound, for an equivalent of 35 kg/m<sup>3</sup> which is within the median range of pottery density from the Operation 1 and 3 habitation areas. In the area of PH11, excavation revealed a large quantity of brick and tile (i.e. fragments in all sizes up to 12-15 cm comprising up to 70% of the soil).

In the area of PH11, deep excavations in the southeast corner of the trench PH11 revealed a long sequence (over 1 m) of relatively empty fill. This area also produced one of the few instances of what might be termed primary deposit in the entire pillar mound area, consisting of two string-cut cup bases that were discovered nestled as though the two vessels had been thrown in together. In trench PH11 at 1.95 m below modern ground surface another level of architecture consisting of two intersecting brick walls was recovered. This discovery suggests that a substantial deposit from an era prior to the use of the area as a pillar mound exists. However, these brick walls were also found at the level of the water table; as it was also the end of the excavation season, the trench was closed and refilled.

#### *Excavation of a trial trench south of the pillar mound*

One trench was placed 20 m south of the pillar mound in the adjacent fields, excavated in a 2.5 x 5 m size and labelled PM17 in keeping with the grid notation of the mound excavations. The fill of this area was distinct from the pillar area, with a relatively low proportion of brick and tile fragments; the sections of the trench in general also present a fill that is relatively empty of structural materials or artefacts, and lacking clear stratigraphy. At 1.2 m below modern ground surface, we encountered the remains of an architectural form previously unknown in our excavations at the site, consisting of several very large laterite blocks laid as a kind of pavement. Time did not permit the full exposure of this structure, but it was clearly quite different

from the domestic architecture seen in the habitation areas of Operations 1 and 3.

#### *Pre-pillar phase*

In the pillar mound area, several trenches revealed that there was a phase of architecture that predated the uppermost deposits. This underlying architecture was exposed only in the very last days of the season and in small areas at the bottoms of trenches. In at least one case (trench PH11) the exposed lowermost architecture was at or below the water table meaning that further exposure of this material (either vertically or horizontally) would be very challenging. The existence of this lower architecture signals that the pillar mound area did have a phase of use prior to the build up of cultural deposits that constituted the foundation of the pillar architecture. However, there was too little exposure of architecture and deposits this year to conclusively suggest whether the pre-pillar phase constituted a domestic habitation zone or was a special-purpose area long before the pillars were constructed.

#### **Comparison of Habitation and Pillar mound architecture**

The pillar mound architecture differs from the habitation areas in many respects. In the habitation areas, architecture was made according to the skill and requirement of the householders, with variations in size, orientation, and quality of construction in the buildings. The foundations often consisted of reused materials, such as broken bricks, or odd-sized laterite blocks that may have been opportunistically scavenged by the ancient inhabitants from many different locales. This continued recycling of building materials also means that ancient peoples' general patterns or expectations about how to use building materials were only general parameters whose specifics were often modified through actual daily use.



Fig. 6: Western side of circular pillar arrangement, view to east

The architecture of the pillar mound area, by contrast, was carefully planned and executed in every way. The laterite blocks that surrounded the pillars were tailored to make an interlocking pattern to support the base of the large pillars, and the pillars themselves were carefully aligned and placed. Moving and placing the blocks and pillars would have required the coordination of dozens of individuals, compared to the smaller scale architecture of the habitation areas that could have been built by the occupants themselves. The orientation of the three structures excavated on the pillar mound in 2008 indicates that they were all laid out on a single axis, indicating a high degree of planning and coordination by the builders.

The degradation and abandonment of the pillar area also is different from the habitation areas, with the pillar mound area giving the impression that once the area fell out of use the pillar structures simply fell apart slowly through the passage of time rather than through any human action of dismantling. The mound does not seem to have attracted any settlement after the period of the pillars, and there is considerable soil accumulation between phases of collapse suggesting that the area was allowed to degrade unimpeded by human actions. Another sign of slow disaggregation is the sequence of wall fall on the north side of the pillar mound where stones seem to have slowly pitched and cascaded off the top of the laterite wall (this process of slow, unhindered degradation was similarly seen in the wall on top of the rampart excavated as Operation 2 in 2005, where excavation revealed a brick and laterite wall that simply folded over and fell after a period of long exposure).

In the pillar mound excavations there are some areas of what might be termed “pristine collapse” such as the fall of interlocking bricks in the central portion of the circular arrangement of pillars. These bricks, perhaps representing an arch or other architectural support, fell as a coherent unit and were not subsequently pillaged for reuse by the site’s occupants. Brick piles elsewhere in the area of the pillars included bricks of all sizes as though the bricks fell and degraded in place. This is unlike the appearance of the brick piles in the Operation 3 habitation area which consisted of broken bricks of a specific size range as though carefully stockpiled by ancient inhabitants for a specific purpose. Finally, the silty material of the circular pillar area indicates that this zone experienced some subsidence after abandonment and slowly accumulated windblown or waterborne material.

The archaeological remains of activities undertaken in the habitation and the pillar areas also were distinct. While small finds of terracotta (particularly in the form of ornaments such as rings, bangles, pendants and ear-spools) were very common in the habitation area, the pillar area had almost no antiquities at all except for nails. The area appears to have been kept clean of both accidentally-dropped items such as ornaments or trash as there were almost no primary deposits of ceramics either on the mound itself or even in the immediate vicinity of the mound in trench PM17. There was no evidence for pits or debris piles in the pillar area, while the habitation area had frequent instances of stockpiled bricks interspersed among structures. The pillar area contains no signs of production activities, in contrast to the Operation 1 habitation area where items such as mica and crucibles were found

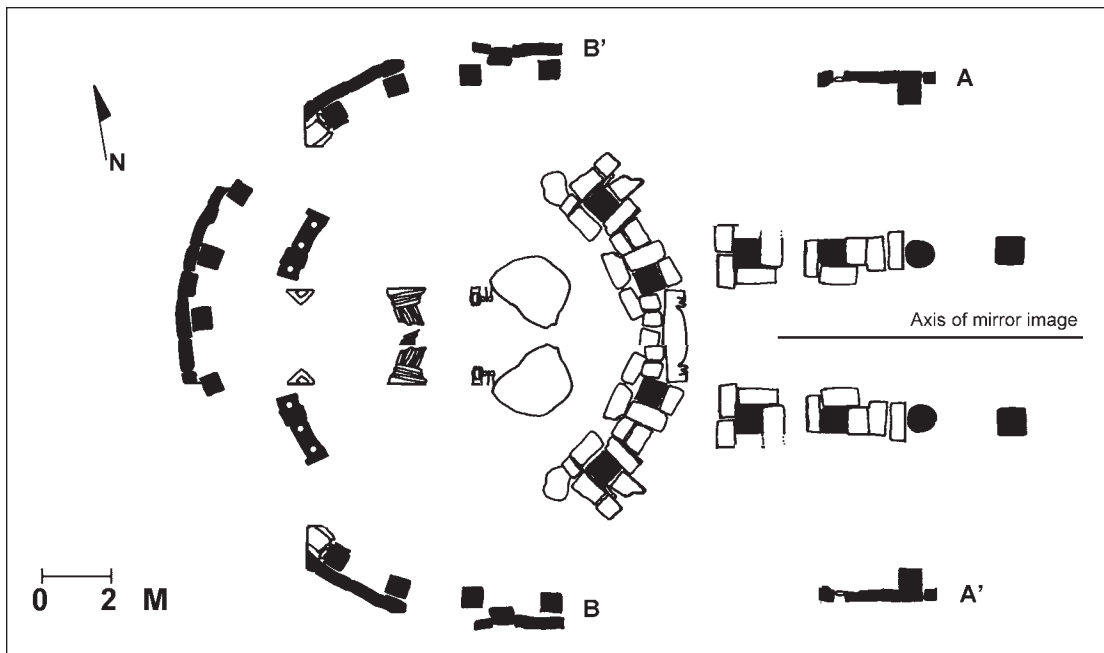


Fig. 7: Hypothetical reconstruction of pillar mound construction on the basis of standing pillars and excavated pillar fragments. The image was created by assuming that the long axis of the paired pillars on the right hand permits a reconstruction of the distribution of pillars and other architecture. Our 2008 excavations were copied on either side of the axis to create this image (for example, A is an excavated area and A' is its mirror-image copy on the other side of the axis. Similarly, B was excavated and B' is its mirror-image copy).

scattered in the household area. Large potsherds were very rare in the pillar area excavations, suggesting that food-related activities either were not present or that they were carefully cleaned up afterwards; this was a great contrast to the habitation areas where there was a very high rate of pottery discard, including complete and nearly-complete vessels. Of the vessels that are represented in the pillar mound area, there is a very restricted range of forms, limited to small and medium-sized bowls. Pottery decorations were also very rare, and limited to simple designs such as grooves in contrast to the appliqué designs seen in the habitation excavations.

### Ceramics and other finds

The finds from the pillar area consisted mostly of abraded pottery and some iron nails. There was little diversity in pottery shapes compared to the habitation areas or to the rampart. The small and abraded condition of the potsherds indicated that they had been brought in as fill by the ancient inhabitants, perhaps from the surrounding area. Some of the sherds in the PL11 room fill appeared waterlogged even at levels above the site's water table, raising the question of whether the ancient inhabitants dredged up sherds from some damp or waterlogged context for use as foundation fill in that structure. It is interesting to note that whatever the original source location of this material, it represented a very limited ceramic and artifact repertoire. One suggestion, based on the geophysical

analysis of the surrounding area that revealed a rectilinear "precinct" was that this area of the site was scraped up and deposited to make the mound on which the pillars were placed. If there is a limited amount of variability from the ceramics in this nearby area it would suggest that the central zone was a special-purpose or limited-access area prior to the construction of the pillar structure.

### Chronology

No directly datable objects were recovered in the course of the 2008 excavation of the pillar mound. The chronology can, however, be suggested by comparison of the pottery with other areas of the site as Sisupalgarh's earliest and latest pottery types are absent from the pillar mound area. For example, the Rouletted Ware appears only in the lowest part of the Operation 5 (e.g., under the levels of the PL11 room that was part of the very large rectilinear structure adjacent to the pillars). The pillar mound area also has a very low frequency of the distinctive gray grooved rims that are known from the very latest deposits. Although analysis is ongoing, the pottery from the entire pillar mound area corresponds to the oxidized (red) sandy wares found in the upper habitation deposits, suggesting that the pottery was well-established and used to an extent that some of it was already abraded by the time that the pillar area construction was started. A tentative suggestion about chronology is, therefore, that the monumental pillar phase of this area was constructed after the era of





Fig. 8: Room PL11 in large rectilinear structure adjacent to pillars

Rouletted Ware, i.e. perhaps as late as the 3-4th centuries A.D. The monumental pillar area would then have been in stasis or already in decline at the time of the site's latest occupation when the gray grooved-rim wares came into use.

### **Summary and Conclusions**

The 2008 excavations at Sisupalgarh enabled us to reach the following conclusions, expanding from the previous years of archaeological survey, mapping and excavation:

1) The area of monumental pillars in the central portion of the site contains many more pillars than were previously known in this area. The previously-known number of fourteen has now been augmented by another 18 discovered in this year's excavation of a portion of the mound. More pillars are certain to be under the ground, but the general outline of an apsidal structure can be hypothesized on the basis of this year's excavations. Such an apsidal structure at a very late phase of the site's occupation should be examined relative to the development of new forms of religious architecture in Old Town Bhubaneswar. Located less than 2 km away from the center of Sisupalgarh, Old Town's earliest temples date to the 6th century A.D. (Panigrahi 1981:3).

2) The area of the pillars was built and utilized by the ancient inhabitants in a significantly different way than the habitation areas. The architecture of the pillar area is substantial in both size and composition, with large-size building materials indicative of planning in both transport and composition. The range of material goods such as ceramics and terracotta objects is very low, suggesting that

the area was used for a restricted variety of activities and kept cleared of debris. Whereas the habitation areas appear to have been subjected to purposeful episodes of dismantling and reconfiguration, the monumental areas appear to have simply degraded where they stood without any active dismantling.

3) Although both the rampart and the pillar area constitute monumental architecture at the site, investigation of these two structures shows that their construction techniques and chronology were distinct. The rampart was constructed early in the site's life and was continually augmented throughout the different phases of urban occupation. By contrast, the monumental pillar area was developed in the last urban phase of site occupation and did not seem to receive any augmentation. Dating to the second half of the site's life and built on a massive scale, the pillar area may relate to other monumental undertakings at the site such as the stone-lined formal gateways.

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Fig. 9: Rectilinear structure on western portion of the pillar mound

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## References

- Lal, B.B. 1991. Planned Cooperation Between Archaeologists and Scholars of Ancient Literature — A Crying Need, *Man and Environment* 16(1): 5-21.
- Lal, B.B. 1949. Sisupalgarh 1948: An Early Historical Fort in Eastern India, *Ancient India* 5: 62-105.
- Mohanty, R.K. and M.L. Smith 2006. Excavations at Sisupalgarh 2005, *Man and Environment* 31(1):27-32.
- Mohanty, R.K. and M.L. Smith 2008. *Excavation of Sisupalgarh, Orissa*, New Delhi : Indian Archaeological Society.
- Mohanty, R.K., M.L. Smith and T. Matney 2007a. A Preliminary Report of the Archaeological Investigations at Sisupalgarh 2006, *Man and Environment* 32(1): 57-66.
- Mohanty, R.K., M.L. Smith, T. Matney, A. Donkin and G. Greene 2007b. Archaeological research at Sisupalgarh 2007: An Early Historical City in Orissa, *Puratattva* 37:142-154.
- Panigrahi, K.C. 1981. *Archaeological Remains at Bhubaneswar*, Second Edition. Cuttack: Kitab Mahal.
- Smith, Monica L. n.d. Urban Empty Spaces: Contentious Places for Consensus Building, Forthcoming in *Archaeological Dialogues*.
- Smith, Monica L. 2006. The Archaeology of South Asian Cities, *Journal of Archaeological Research* 14(2): 97-142.
- Smith, Monica L. 2005. Archaeological Research at Sisupalgarh, an Early Historic City in Eastern India, in *South Asian Archaeology 2003* (Ute Franke-Vogt and Hans-Joachim Weisshaar Eds.), pp. 297-306. Aachen: Kommission für Archäologie Außereuropäischer Kulturen.
- Smith, Monica L. 2003. Urban Social Networks: Early Walled Cities of the Indian Subcontinent as “small worlds.”, in *The Social Construction of Ancient Cities* (Monica L. Smith Ed.), pp. 269-289. Washington D.C.: Smithsonian Institution Press.
- Smith, Monica L. 2002a. The Role of Local Trade Networks in the Indian Subcontinent During the Early Historic Period, *Man and Environment* 27(1): 139-151.
- Smith, Monica L. 2002b. Systematic Survey at the Early Historic Urban Site of Sisupalgarh, Orissa, in *Archaeology of Eastern India: New Perspectives* (Gautam Sengupta and Sheena Panja Eds.), pp. 109-125. Kolkata: Centre for Archaeological Studies and Training, East India.
- Smith, Monica L. and R.K. Mohanty 2007. New Investigations at an Old City: Research at Sisupalgarh, India, *Backdirt* (Annual Report of the Cotsen Institute of Archaeology), Spring 2007, pp. 54-59.
- Smith, Monica L. and R.K. Mohanty 2006-07. Excavations at Sisupalgarh 2005-06: A Brief Report, *Bulletin of the Deccan College Postgraduate and Research Institute* 66-67: 191-198.