SPACE AND SOCIETY AT SIRKAP, TAXILA: A RE-EXAMINATION OF URBAN FORM AND MEANING

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1. Introduction

The three great cities of Taxila, the Bhir Mound, Sirkap and Sirsukh, have long been the subject of archaeological and art historical inquiry. Examined by the doyen of the Edwardian archaeological world, Sir John Marshall; his *magnus opus* (1951) still remains the base for all subsequent interpretations and re-interpretations of the sites and their surrounding landscapes. However, as the investigative methods used were limited by the available techniques and methods of the day, recent archaeological investigations and re-interpretations (Dani, 1986; Allchin, 1993; Coningham, 1993; Dar, 1993; Fussman, 1993) have demonstrated that there is still much to be understood about the sites. Much effort has been expended on analysing, comparing and contrasting the overall architectural layout of the three cities, but very little on the specific distribution on artefacts within those structures. The focus of this paper is to re-examine the architectural and artefactual layout of only one of those three cities - Sirkap (Figure 1). Beginning with a description of traditionally held views of the use of space at Sirkap, based upon Sir John Marshall's original interpretation of the site and its buildings (Marshall, 1951), but also incorporating more recent comments by Dani (1986), this paper will present a re-examination of the spatial layout of three specific activities within the city. These activities are the commercial foci, the religious foci and the administrative foci. Using a methodology which combines techniques of analysis from other major South Asian urban sites such as Mohenjo-daro (Sarcina, 1977; Jansen, 1977, 1981, Kenoyer, 1985), Bhita and Anuradhapura (Coningham, 1993, 1997) we hope to offer a fresh interpretation of the use of space within the second, that is Parthian, strata at Sirkap.

2. Traditional interpretations of Sirkap

Between 1913 and 1934 Sir John Marshall exposed a vast swath of roads, temples, shops, houses and a palace in an enormous trench in Sirkap's lower city, a trench which measured some 595m in length and some 234m in width. Although it is generally thought that the occupation at the site dates between c.175 BC and c.100 AD (Allchin, 1995,126), the

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majority of the structures exposed belong to the second strata, the Parthian 'period', between the first century BC and the first half of the second century AD. Traditional interpretations of Sirkap have followed Marshall's (1951, 1986) example by describing the architectural and artefactual evidence, block by excavated block, as if on a guided tour through the city (Figure 2). Indeed, even re-interpretations of Marshall's identifications have preserved this original pattern (Dani, 1986). Due to this reliance on Marshall's early work, it is worth once more summarising his identifications and interpretations. Whilst at first glance Marshall described the first century AD structures of the second strata at Sirkap as "bewilderingly complex" (Marshall, 1951,140), he in fact describes a systematically ordered and planned city:

> Down either side of the Main Street runs a row of shops. They are small, single-storied structures of one or two rooms, raised on a high plinth above the roadway and often with a shallow veranda or open platform in front. The rows of these shops are not continuous. At short intervals, their shadows are broken by streaks of sunlight from the narrow side-streets which cut from east to west in parallel lines across the city; and here and there, too, between the shops can be seen sacred temples and shrines overlooking the main thoroughfare; for the people of Taxila are a devout people, and the monuments of their faiths are as conspicuous a feature inside the city walls as they are in the country roundabout. One of these sacred memorials is on our immediate left. It is a stupa of the Jains (?) standing in the middle of a spacious court between Second and Third Streets, but all we see of the stupa is its dome and crowning spire of umbrellas rising above the surrounding wall. Then, a couple of blocks farther on, but not more than 80 yards away, is an imposing temple of the Buddhists - the biggest of its kind at Taxila - set well back from the road in another great court; and in front of it the spires of two more stupas, which stand in the same court to the right and left of its entrances. Opposite to this temple at the corner of Block C' is still another stupa, while three others are visible rising above the shops farther up the street, two on the left in Blocks F and G and one on the right in Block E', their graceful domes and spires making a pleasing contrast with the flat roofs around them. Beyond them, in the distance, the royal palace stands out, white and gleaming, against the rugged hills to the south.
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> At the back of the shops and shrines, and reached through entrances in the narrow side-streets, are the private dwelling-houses of the citizens. A few right under the city wall are poor, mean habitations, occupied probably by the soldiers who guarded the ramparts, but most of them are large houses belonging to the rich; for this is the fashionable quarter of the city. The royal palace itself is only 500 yards up the street and the people who live between it and the Main Gate are of the governing classes, with attendants and slaves for whom accommodation is needed in their houses: people who can afford to wear costly jewellery on their persons and to use diverse articles of luxury imported from the western world. Their houses are flat-roofed and low, like bungalows; for since the great earthquake the old tall houses of Taxila have, for safety's sake, been cut down to two stories. They cover, however, a big area of ground - on an average, some 15,000 sq. ft. - and contain a score or more of rooms on each floor. When we enter them we shall find that the rooms are grouped, as is usual in the east, about several open courts from which they derive their light and air, but the courts are sometimes no bigger than the rooms themselves and sometimes they take the form of mere wells or

of passages between the rooms. Windows are provided in the outer walls of rooms overlooking the streets, but they are no more than narrow slits like those in the outer walls of monasteries.

Higher up the Main Street, as one gets near to the royal palace, the houses are rather more carefully planned and furnished with larger courts. Some of these, one may suppose, served as public offices, and in the interests of administrative convenience they would naturally be located in the vicinity of the palace. The palace itself (Block K) is like a glorified private house - planned, that is, on the same lines but on a bigger scale, and with more spacious courts and rooms. Its walls, too, are more massive and higher in the proportion to their massiveness, so that one can see the palace from any part of the city rising well above the surrounding roofs."

(Marshall, 1951, 140-1)

We shall now look in more detail at the structures which were identified by Marshall as commercial, religious and administrative. As is clear from the above description, Marshall identified the small, single-storied structures of one or two rooms lining the Main Street as shops (ibid., 140). Such an identification had already made at the Bhir Mound with some success (Marshall, 1986,52). It is notable, however, that whilst in the case of the latter, shops are recorded on many of the thoroughfares, in Sirkap they only line the Main street between the northern gate and the Palace. Marshall does not discuss any of the finds from this category of structure. In contrast to Marshall's descriptions and discussions of commercial loci, much coverage is given to the identification of religious loci. Loci, which are identified on account of their architectural features and, in most cases, the presence of stupas. A total of nine religious structures were identified within the excavation trench in the lower city. Whilst three of them were identified as private shrines, the remainder are, presumably, public shrines. It is also clear that whilst they differ dramatically in size, the largest covered 3,420 square metres and the smallest 9 square metres, they are, for the whole concentrated along the main thoroughfare.

The six public shrines all front Main Street and are located at 1A, 1C', 1D, 1E', 1F and 1G. The locus at 1A consists of a courtyard, measuring some 23m square containing a central stupa and three subsidiary ones. The courtyard itself is surrounded by a series of rooms which were identified as living-chambers for monks by Marshall (Marshall, 1951, 140-1) The presence of ritual tanks within the courtyard led the excavator to identify this shrine as a Jain complex (ibid.), an identification queried by Dani (1986,98). Locus 1C', on the western side of the street, consists of a small courtyard, covering some 10 square metres, with a small central stupa (Marshall, 1951,191). Although it is a similar size to a number of the 'private' shrines, Dani assumes that since it was approached from the main street "it cannot be a private shrine." (Dani, 1986,99). The largest religious complex in the city is located in 1D and contains a number of structures within an enormous rectangular courtyard measuring some 76m by 45m (Marshall, 1951, 140-1) It is clear from the position of the

compound wall that this monument represents an interpolation within the grid-iron street system. The central focus of the locus is provided by a 43m long apsidal stupa chapel reached from the main street by passing between two large subsidiary stupas. Marshall also suggested that the adjacent houses to its east, 2D and 3D, belonged to the temple management (ibid., 155-6), Dani confirms this by stating that "this area must have been acquired for those who had special relations with the temple, either for the monks themselves, if they lived in the city, or for those attendants who had something to with the upkeep of the temple." (Dani, 1986,99). He also suggests that the rooms at the south-east face of the complex were not shops but chambers "for the guard keepers of the temple" (ibid., 100). Marshall identified the remains of another stupa-shrine in locus 1E', facing the main street in a small courtyard measuring 16m square (Marshall, 1951,182). Dani counters this identification, suggesting that it is probably a sun temple with an attached hall and court (Dani, 1986,93), and extended to the house on its north and west (ibid., 103). The stupa of the Double-headed Eagle was excavated in 1F. Situated on the street frontage, it consists of a stupa standing at the centre of a courtyard measuring some 13.5m square (Marshall, 1951,163). Four chambers on the western side of the courtyard were interpreted as chambers for the keepers of the shrine (ibid.), and Dani suggests that the adjacent house of thirty rooms arranged around six small courts "appears to be the residence of the monks" (Dani, 1986,104). The sixth and final stupa public shrine is located on the main street frontage in 1G. Consisting of a small stupa in a courtyard covering some 65 square metres (Marshall, 1951,167), both Marshall and Dani suggest that the quarters for the priest or attendants were located in the small rooms to the side of the shrine (Dani, 1986,105).

As noted above, in addition to the public shrines there were also three private shrines identified at 3A, 1E and K. Locus 3A consists of a small stupa at the centre of a room or courtyard measuring some 3m square. Marshall suggested that as both the stupa and courtyard were diminutive it was likely to be "a small private chapel set up in the women's quarters and intended for their use" (Marshall, 1951,146). This identification has been apparently accepted by Dani (Dani, 1986,98). The second private shrine is located in locus 1E, and consists of a 3m diameter stupa standing in one of the four courtyards allocated to the house of Block 1E. Although it is situated close to the junction of Main Street and Sixth Street, Marshall was of the opinion that it performed a private rather than a public function (Marshall, 1951,158). The third and final private shrine is located within Block K and consists of single stupa at the northern end of a courtyard measuring some 13m square. The courtyard itself is surrounded on three sides by chambers, and a row of four 'ritual' tanks were exposed along the base of the stupa (ibid., 173). Due to the shrine's proximity to the palace building, Marshall identified it as private chapel attached to the palace's Women's Quarters and further suggested that the 'ritual' tanks indicated that it was a Jain, rather than a Buddhist,

shrine (ibid., 173-4). Marshall further identified the complex of Block K as providing the prime administrative focus of the city - the palace. Though it was similar to the city's private houses in terms of form and shape, it was immediately differentiated on account of its larger courtyards, rooms and massive walls (ibid., 141), as well as by its close parallels with other Parthian and early Sasanian palaces (ibid., 176). Covering an area of 137m by 117m, he further stated that it was located at one of the main junctions of the city's roads, beside a large open square, thus confirming its identification (ibid., 171). A further palatial building or complex was identified in Block K', again mainly on account of its massive walls and large courts (ibid., 179). Having now introduced the traditional interpretations of the location of commercial, religious and administrative foci within the lower city of Sirkap (Figure 3), we wish to present the methodology which will enable us to re-examine their locations and the resultant plan of the Sirkap's functions.

3. Methodology

The study of South Asian archaeological urban forms has tended to conform to either of two major analytical methodologies. The first, initiated by Sir John Marshall, is the description of the excavations, individual block by block and their contents, in a gazetteer format. Whilst this methodology presents the basic data in full form, it has the tendency to swamp any analytical overview by the sheer weight of finds and architectural detail. The second methodology avoids any mention of artefacts and concentrates on a macro-analysis of urban forms, studying the overall urban plan and drawing lists of functional similarities or differences with other sites. Whilst this latter methodology offers a broad overview of the site's plan, and that of its affines, it is very limited in terms of intra-site analysis. In reaction to such limited methodologies, a number of scholars have tried to create fresh methodologies which will reveal more about the social and spatial ordering of the sites. These scholars have utilised two very different data sets, the first is based upon architectural elements, and the second on artefacts. For the first, architecturally-based, group, Sir John Marshall's excavations at Mohenjo-daro have provided a vast data base of individual structures and their position within the urban plan to examine. Jansen started this work by first challenging a number of the original interpretations and data documentation (Jansen, 1977,1981). He demonstrated that scholars had to be critical of the original archives and that in many cases the evidence, that is the remains, had to be re-mapped and re-recorded. Sarcina's experiment, also at Mohenjo-daro, built on Jansen's freshly documented data and attempted to identify structural patterning and residential models within a small block in Mohenjo-daro's lower city (Sarcina, 1977). By identifying a consistent pattern of fixed elements within the structural data she isolated a number of categories of individual units, to which she began to attribute functions. In doing so she hoped to begin the process of creating a socio-economic

model for the city. Such models are, however, generally flawed by concentrating solely on architectural elements (Coningham, 1993,72). Indeed, it is very difficult to examine the distribution of architecturally differentiated units within an urban form where one has to ascribe 'a priori' functions as one has no knowledge of the value system of that past society (ibid.). Leach has seriously criticised such attempts stating that "An archaeologist with nothing to go on except a residual ground plan cannot infer from that...what was the generative syntactic rule." (Leach, 1973,388).

Our second, artefactually-based, methodologies have concentrated on the interpretation of the distribution of artefacts (Coningham, 1993,1997). As in the case of the architecturally-based analysis, such developments have tended to concentrate on Prehistoric sites (Mariani, 1984; Pracchia et al., 1985; Kenoyer, 1985). These studies have followed a very consistent pattern. First, the site is divided into a grid, and then a detailed surface survey is conducted, collecting specific categories of artefact. In most cases these categories have been various types of industrial or craft waste. They often include metal slags, semi-precious stone debitage, crucibles, furnaces, semi-finished objects, blanks and moulds. All these objects had a high degree of preservation but a low value. It was suggested that the later factor meant that these almost indestructible items were unlikely to have been moved far from their original location. Indeed, as Mariani stated of the distribution of waste products: "One may assume that they do not indicate the precise boundaries of the craftsmen's quarters; they mark rather a generic location, since previously thickly concentrated waste materials have leached to the surface and spread all around. The presence or absence of these elements certainly indicates the kind of activity performed in that area. It is most unlikely in fact that such elements were moved away from their place of production." (Mariani, 1984,118). One may be critical, however, of such studies as they are based upon surface survey. Erosional wash, and other natural factors, may greatly alter the artefactual patterning, as may the symbolic value of certain types of waste. A further criticism is that such studies are divorced from their architectural context, leaving them as limited as the solely architecturally-based studies (Coningham, 1993,70).

To some extent these two differing methodologies were brought together for the first time by Tosi's work at the third millenium BC proto-Urban site of Shahr-i Sokhta in Eastern Iran (Tosi, 1984). Tosi had hoped to demonstrate that craft-working activities at the site would become more centralised over time as an indication of the growing power of central authority. He therefore examined the distribution of a number of craft-activities through time and space at the site. Although his initial hypothesis was refuted, his methodology of analysing specific artefacts within their architectural elements provided an extremely helpful example. As noted above, the majority of these methodologies have been applied to Prehistoric rather than Historic or Early Historic sites, with the exception of the study of

craft-working activities at Anuradhapura, Bhita and Taxila (Coningham, 1993,1997). Certainly since Marshall's publication in 1951, updated by Dani's monograph (1986), most studies of Sirkap have concentrated on the interpretation of the overall pattern of the city plan. Some scholars have examined the actual physical outline of the city, debating the position of Kaccha Kot within the fortifications, whilst others have debated the Hellenistic, Central Asian or South Asian genesis of the site (Ghosh, 1945; Allchin, 1993,1995; Fussman 1993). The aim of the present paper is to develop Coningham's earlier work at Sirkap (1993,1997) by re-examining the distribution of commercial, religious and administrative loci within the city using Marshall's artefactual and architectural records (Marshall, 1951) in order to test the traditional models of the city's organisation of space. Marshall was quite clear in his early interpretation of the site, he allocated all commercial activities within the excavated portion of the lower city to the single-storied, one or two roomed structures situated on the frontage of Main Street (Marshall, 1951,140-1). These were interspersed with a number of public shrines, representing religious loci, also situated on the frontage of Main Street (ibid.). In addition, a couple of private shrines were identified in less accessible locations (ibid., 146). Administrative loci were allocated to Block K and K' at the southern edge of the excavated area (ibid., 141). Before examining the validity of these allocations, it is important to comment on the validity of Marshall's two data sets themselves, the architectural and the artefactual.

All analytical studies of Sirkap have relied upon Marshall's plan of the excavated ruins of the lower city. Although the plan represents one of the best plans of an Early Historic city available within South Asia, there is still much that we do not know about the structures and their layouts. On the Marshall's plan (1951, Plate 10), for example, there are very few indications of doorways or courtyards, thus greatly limiting any architectural study at individual structure level. Indeed, scholars using the same plan, have offered different interpretations for the division of the same areas. Thus Marshall identified three houses in Block H (Marshall, 1951,169) and one in Block G' (ibid., 180), whilst Dani identified seven houses in H and a number in G' (Dani, 1986,105). Part of our methodology followed Jansen's example (1977) and thus we started by 're-drawing' the lower city plan and omitted Marshall's superimposed excavation grid in order to only show the walls (Figure 4). This process was followed by the identification of street networks (Figure 5) to serve as a mechanism for dividing the city space into units of measure and understandable blocks. From this perspective it was possible to expand the understanding of the overall street system in the lower city. In doing so, it quickly became apparent that the grid-iron pattern, traditionally attributed to the city's Hellenistic founding, had been highly modified over the life of the city. The same level of modification is also visible within individual blocks and structures themselves as seen in the plan. In addition, we augmented the resultant plan with

the use of published aerial photographs of Sirkap (Ghosh, 1945). This allowed us to further identify portions of the city's street network as indicated by the location and position of a number of east-west field boundaries, particularly between Marshall's excavation and the eastern city wall, which align closely with the known extents of the roads within the excavated portion (Figure 6). The recording and mapping of this architectural data was done using AutoCad (Version 12) with separate data layers for walls, property lines, and blocks and later for artefact categories. This data format was chosen for its flexibility and ease of data transfer. It also allows for the later additional of additional information for future analysis, for example, the recording of individual artefacts and three-dimensional modelling. Using this format, the data can later be input into a Geographic Information Systems (GIS) in order to facilitate the processing of additional database information regarding the site, such as databases of artefacts, photographs, drawings, topography (slope and aspect) and drainage throughput models.

There are also problems relating to our second data set, the artefacts. Marshall's published catalogue of finds constitutes the basis for all the artefactual plotting and identification of finds used in this paper (Marshall, 1951). It represents only a partial report of all the finds recovered, and we may presume that a number of the finds were selected as they were representative of unique. It is also quite true that Marshall's control of the vertical record was not particularly strong, however, it would be true to say that his horizontal recording was amongst the best of his day. In most cases he recorded the exact square from which artefacts were recovered, allowing a reconstruction of their find spot in individual rooms in street blocks, when used in combination with the use of his city plans. There are also problems associated with the function attributed to certain finds; thus some terracotta figurines, mainly human, are identified as votive (ibid., 442-451), whilst others, animals, are referred to as 'toys' (ibid., 452-3). Similarly, it is difficult to attribute a clear function to hoards within Sirkap. Hoard or deposit E, for example, was found in House 4 of block D' and has been interpreted as "the stock-in-trade of some lapidary or jeweller" (ibid., 188). House 4 is clearly not a commercial loci using Marshall's template for shops (ibid., 140) but a habitation! In other cases similar hoards are interpreted as being votive, or rather, donations to religious institutions in which were later hidden (ibid.,156). We also have the problem with many artefact categories that they are of some value, either in monetary or religious terms, and thus they may have been moved or preserved or deliberately hidden. We believe, however, that using selected artefactual and architectural records from Sirkap we can re-examine Marshall's allocations of commercial, religious and administrative loci within the lower city, and thus to start understanding complexities of the city and its spatial framework in more depth. As we are concerned only with the distribution of artefacts from the Parthian phase we have only analysed a limited category of finds from Sirkap strata III and hope to understand more about the architectural and artefactual form and function in one of South Asia's great Early Historic cities. Having thus broadly placed our metho-

dology, we may now proceed with the re-examination of the three loci within the lower city of Sirkap.

4. Commercial loci

As noted in section 2, Marshall identified a single category of commercial loci, shops, within the lower city of Sirkap. These loci consisted of single-stored, one or two roomed structures which were only found on Main Street (Marshall, 1951,140). Dani has countered this interpretation suggesting that a number of the shops may in fact be verandas in front of houses fronting Main Street, furthermore he has certainly rejected the identification of such commercial loci in front the Women's Quarters of the palace (Dani, 1986,93). He further states that, although Marshall has identified them as shops, "no marketable antiquity or craftsmen's quarters have been specified" within any of them (ibid., 92). There also appears to be an element of confusion within a number of Marshall's own identifications. He first identified, for example, the double row of chambers fronting the apsidal chapel of 1D as cells for the complex's monks, but then suggested that they might have been shops leased to merchants by the temple authorities (ibid., 150). As also noted in section 2, Sirkap's restriction of shops to the frontage of Main Street is at a striking variance with that of its predecessor, the Bhir Mound. At the latter site Marshall identified a number of commercial loci, some situated on First Street, but others on smaller lanes and streets. He identified, for example, a shop selling religious terracotta reliefs in a structure situated across a narrow lane from the pillared hall within the western group of buildings (ibid., 98) and a shell-worker's shop in room 7 of Block D fronting Second Street (ibid., 92). Dani has further confirmed this diverse pattern at the Bhir Mound by identifying a jeweller's shop in a structure overlooking Lane 3 (Dani, 1986,86). It is possible, however, to suggest that this diverse pattern of the distribution of commercial loci at the Bhir Mound is also shared by Sirkap, but such a hypothesis can only tested by a re-examination of artefact distributions.

As previously stated, it is believed that a study of the distribution of craft-working debris and manufacturing objects may result in the identification of the vicinity of specific craft-working loci (Coningham, 1993,1997). Indeed such studies have been found to be extremely valuable in understanding the spatial and social organisation of such activities within urban sites (ibid.). By applying such a methodology to artefacts from Sirkap it is possible to demonstrate that there is strong evidence to suggest that commercial loci are found throughout the excavated portion of the lower city and not just in the structures identified as shops lining Main Street. Our categories of craft-working debris and manufacturing objects are casting and smithing moulds, crucibles, glass frit and bead-making debris (Coningham, 1993). Four stone mould were recovered from the Parthian levels at Sirkap, two from Block D', one from Block C and one from Block A' (ibid., 507). A further four terracotta moulds

were recovered from Block L from the same levels (ibid., 462-3). Whilst the single finds from Blocks A' and C are not conclusive of the presence of manufacturing, associated finds from Blocks D' and L appear to confirm the presence of a commercial locus. The moulds from the latter were recovered from a chamber fronting Main Street, immediately adjacent to the palace. It is interesting to note that Marshall identified this street-front locus, not as an official mint situated next to the palace in a structure of similarly massive wall foundations, but as the workshop of coin-forgers! (ibid.). The associated finds, presumably metal-working tools, included 9 hammers, 3 chisels, 3 picks and one pair of pliers (ibid., 178). Dani has suggested that this locus is better interpreted as an official mint rather than a rogue one (Dani, 1986,108).

Whilst this locus is clearly confirms Marshall's spatial hypothesis, our first example of an alternative commercial locus, in Block D', is also one of Marshall's own identifications. Marshall interpreted Deposit E, a miscellaneous collection of 88 copper, gold, stone, glass and silver objects, from House 4 in Block D as "the stock-in-trade of some lapidary or jeweller" (ibid., 188). It is interesting to note that he made this identification even though they were recovered from a locus described as a house and not a shop. Certainly the composition of the artefacts appears to support his hypothesis, they included a stone casting mould, 25 stone weights, 17 worked pieces of semi-precious stone, frit and many silver and gold objects, the latter presumably bullion to be melted down and re-cast. A further hoard of 102 metal dies, forming Deposit G, was recovered from an adjacent room, yet again suggesting a locus of lapidary or jewellery work. Indeed, Marshall states of this collection that it throws light "on the processes employed by the Taxila jewellers" (ibid., 189) and even refers to the building as "the House of the Jeweller" (ibid., 582). Dani again confirms this identification by stating that "the houses belonged to jewellers and were also their workshops" (Dani, 1986,102). In addition to the lumps of crude glass recovered by Marshall from Block D', a cache of 392 glass pieces connected with glass-making were recovered from one of seven large jars in the store-room of a structure in Block I (ibid., 170,690). Further evidence that it may have been a manufacturing or commercial locus is suggested by the rectangular block in square 133.61' which contained a double line of pits (ibid., 170). Whilst Dani interprets these as fire-altars (Dani, 1986,106), they could easily be ovens connected with the production of glass beads and other objects. Two further loci were identified by Dani. One, a locus for iron-working was identified in Block F' on the basis of the large variety of tools and iron objects (Dani,105), and the other, a gold-smiths' quarters in Block A' on the basis of sixty-six copper dies for making ornaments. It is thus possible to demonstrate, using other categories of waste and manufacturing objects, that the allocation of commercial loci solely to the frontage of Main Street is erroneous and that commercial loci are distributed throughout the lower city, from the main thoroughfares to the back lanes (Figure 7).

5. Religious loci

We have already noted that religious foci within the excavated portion of the lower city of Sirkap have been divided into three private shrines and six public ones. They appear to have been differentiated into public or private on two counts, firstly, their size, and secondly, their access. Thus the shrine in 3A was deemed private because it was set in a very small courtyard and accessible only through Second or Third Street. Shrine 1C'; whilst another diminutive stupa, set in a diminutive courtyard, was however identified as public because it was reached from Main Street (Dani, 1986,99). This logic, however, goes somewhat astray when the stupa in courtyard a of Block 1E is identified as being private (Marshall, 1951,158) although it stands at the junction of Main and Sixth Street. Moreover, the identification of religious loci, be they private or public, based upon the presence or absence of a stupa appears to be very questionable. All the more questionable in the light of the shrine-room identified by Marshall in the Western Group of buildings at the Bhir Mound. In this area Marshall excavated a large house complex measuring some 60 metres square, consisting of two large open courts surrounded by thirty rooms (ibid., 98-9). The largest room, situated on the western side of courtyard C, measured some 20m by 8m and had three large piers for supporting pillars or columns. Whilst the entire building is larger than average, it corresponds closely to other houses within the Bhir Mound; the pillared hall, however, appears to be a unique feature. Marshall suggested that it might be represent either a divan, if the house was the residence of an official, or a shrine (ibid.). Marshall selected the latter interpretation and further suggested that "the house attached to it may well have been occupied by the priests and their attendants or disciples" (ibid., 98). He also drew attention to the fact that it represented "the earliest Hindu shrine, by several centuries, of which any remains have come down to us. Nor can the fact that there is nothing whatever in the design of this building to connect it with later Hindu architecture be used as an argument against this hypothesis; for the beginnings of that architecture are at present almost a closed book to us. The earliest shrines with which we have hitherto been acquainted go back no further than the Gupta Age." (ibid.). In the light of these comments it is strange that no similar shrines were identified at Sirkap, and we may state that the identification of ritual or religious foci cannot just rely on architectural elements alone.

In order to further understand the spatial distribution of public and private religious, or ritual, loci we shall follow a methodology which identifies specific artefacts which appear ritually charged. By studying their distribution within the city it is hoped to arrive at a more balanced understanding of ritual and religious space within the city. This methodology will attempt to identify specifically ritual artefacts from their association with known shrines within the city as well their presence in the monasteries surrounding Sirkap. Such artefacts include relic caskets; images of stucco, stone and terracotta; bells; 'ritual tanks'; and votive

hoards. In order to illustrate this relationship we shall first examine a number of the portable finds from two of the major monasteries outside the city, Kalawan and Dharmarajika. Kalawan is one of the larger of Sirkap's neighbouring monastic establishments and consists of a large stupa court bordered on the south by a series of monastic courtyards (ibid., 323). In addition to numerous stone and stucco sculptural fragments depicting the Buddha, Bodhisattvas, various deities, monks and lay-worshippers, finds included three spherical stone caskets, one stupa-shaped casket, two gold cylindrical caskets, one silver cylindrical casket, two terracotta portrait heads of donors, five copper bells, two copper bowl-shaped umbrellas, one copper triratna ornament and two stupa-shaped copper vessels (ibid., 324-340). Similar finds are recorded from Marshall's excavations at Dharmarajika, the main extra-urban religious focus in the Taxila region. The Dharmarajika stupa stands at the centre of a mass of chapels, pillars, votive stupas, temples, image houses and monasteries and is reputed to have been founded by Asoka (ibid., 235). Finds included eighteen stone relic caskets, two ivory caskets and one stupa-shaped copper vessel from votive stupas surrounding the main stupa (ibid., 240-248); numerous stucco and schist sculptures, toilet trays, schist lamps, clay sealings and stone relic caskets were recovered from adjacent chapels and shrines (ibid., 248-273). Further stucco and schist sculptures, relic caskets, copper finials, incense-burners and bells were recovered from the complex's monasteries (ibid., 274-287). To some extent similar objects have also been recovered from the previously identified religious loci within Sirkap. The courtyard complex of 1A yielded architectural evidence of one major stupa with evidence of a stucco railing and three subsidiary stupas (ibid., 142-4). Its artefacts included a crystal casket containing relics, from the main stupa, two votive kanjur stupas, four copper bells, two terracotta 'ritual tanks and one phyllite saucer (ibid.). Numerous stucco and schist sculptural elements and one toilet tray were recovered from the apsidal temple in D (ibid., 154-155), whilst stucco decorations were found on the stupa of court a in Block 1E (ibid., 158). Stucco ornamentation was also recovered from the public shrines of 1E' (ibid., 183) and 1F (ibid., 163). Stucco and schist ornamentation and a schist casket filled with relics were recovered from the small stupa facing Main Street in 1G (ibid., 167). Marshall specifically commented on its similarity with other caskets from the Dharmarajika stupa (ibid.). Four 'ritual' tanks and two schist relic caskets were recovered from the relic shrine in K; one casket from the courtyard and the other from the small stupa (ibid., 173). Dani suggests that 'ritual' tanks and mother goddesses "belong to the traditional culture of the land that probably prevailed from primitive times." (Dani, 1986,93). Thus in conclusion we may suggest that stucco and schist sculptures, bells, schist caskets, ritual tanks and clay figurines, votive stupas, stupa-shaped caskets and vessels, incense burners, terracotta portraits and ivory and metal caskets represent objects with a religious, or rather, ritual association.

Stone caskets are found in locations throughout the lower city of Sirkap other than those designated by major architectural features. Although described by Marshall as toilet caskets, he comments that they were often regularly as reliquaries (Marshall, 1951,498). One casket was recovered from B' (ibid., 194), three caskets from 3D' (ibid., 186), one from E', one from E (ibid., 499), one from F (ibid.), one from G (ibid., 169), one from G' and one from K (ibid., 499). There is, however, little doubt as to the ritual role of stupa-shaped caskets. One stupa-shaped stone casket was recovered from 2C (ibid., 148), two from 3D' (ibid., 190) and two from 1C (ibid., 192). A single ornate copper incense burner was recovered from Block B' (p.596) and two copper bells were recovered from 1G (ibid., 598-9). In addition to the three tanks found in the palace shrine and the two found in the shrine of Block 1A, two 'ritual' tanks were also recovered from a different area of palace K and palatial structure K' (ibid., 463-5). No stucco sculpture were recovered outside the traditionally identified loci, but seven stone sculptures were recovered. A Hariti was found in 1C', a Maya (?) in 3D', an identified female in 2D', an unidentified male in 3B, an inscribed bracket in J, a seated herm (?) in 1C and a fountain head in the shape of Kubera in H (ibid., 700-3). In addition to these stone sculptures, a number of metal figurines were recovered. A bronze statuette of the Egyptian child-god Harpocartes was found in a chamber in house 1E, a copper statuette of an unidentified male deity was recovered from 1E' and an statuette of an unidentified female figurine in Seventh Street (ibid., 605-6). In addition to these stone and metal statues, there are also numerous terracotta and clay figurines. To refute suggestions that many of these objects may be toys, it is extremely important to note that a large number of terracotta and clay figurines have also been recovered from the surrounding Buddhist monasteries (ibid., 439). Three 'Nude Mother' or 'Earth goddess' type figurines were recovered from 1E', I and K (ibid., 443), one seated male figure from 2D (ibid., 449), one male and female plaque from 3B (ibid.), two pot-bellied dwarf figurines from I and I' (ibid., 450), one Greek-style female head from G', one Partho-Greek style head from 1F (ibid., 451) and one androgynous figure from G' (ibid., 452).

When cross-referencing this artefactual information we can identify a number of new loci. House 2C is undoubtedly an important focus with a stupa-shaped stone casket, two coin hoards, presumably votive, and a schist sculpture head (ibid., 148-9). Similarly we can identify another focus in 1C' indicated by the joint find of a stupa-shaped reliquary and statue of a godess, probably Hariti (ibid., 192). Marshall stated that "the discovery of the image along with the relic-stupa leaves little room for doubt that we have here a small cult image who was at this time an object of worship" and even suggested that it might have formed "a smaller private chapel in the house where they were found" (ibid.). Artefacts from house 3B suggest a further ritual focus with finds of a stone male statue, a votive terracotta plaque, parts of an incense burner and a hoard of gold and silver objects hidden in a pot (ibid., 147). A

further locus could be identified in court b of Block 1E where the statuette of the god Harpocartes was found with two large hoards of silver and gold objects in a pot (ibid., 159-160). Indeed it is quite possible that courtyard b and its chambers formed a self-contained shrine and not necessarily part of the same house as courtyard a. Yet another focus is provided by the cluster of two stone caskets, a hoard of gold and silver objects (ibid.) and a statuette of an unidentified male (ibid., 605-6) and two fragments of schist sculpture in E'. Marshall suggested that the latter had "come from the shrine belonging to the house in which they were found" (ibid., 184). It is also worth noting that the role of the hoards is somewhat puzzling, undoubtedly some function as storage loci, as in the case of the jars in Block I (ibid., 170), but clearly others function as important ritual focus. A role suggested by the large gold and silver hoard in 2D, some of which had donors' inscriptions (ibid., 156-7), as well as the hoards at the Dharmarajika stupa (ibid., 139;282-3). It is assumed that a number of the hoards recovered (ibid., 171,174,175,180) played a similar votive role in the ritual foci involved. In conclusion, we may state that the pattern of religious, or rather ritual, activities within the lower city of Sirkap was extremely wide and varied (Figure 8). Undoubtedly many inhabitants and pilgrims focused on the major architectural complexes, however, we should not, as has often been done, ignore the broader pattern beneath. The relationship between the sub-urban monasteries, the major urban shrines and the localised or private urban shrines must have been extremely complex involving ancient and modern, local and foreign divinities. It is tempting to suggest that a pattern akin to the Nepalese city of Lalitpur would not go amiss. Here in the Kathmandu Valley, major endowed shrines, founded by both royal and commoner donors, are interspersed with localised cult activity centres represented by stupas and lingums within the courtyards of individual housing blocks, sometimes focusing on no more than an unrecognisable fragment of sculpture!

6. Administrative loci

Marshall identified two foci of administration within the excavated section of the lower city at Sirkap. The first were the guardrooms of the northern gateway and the second the palatial complexes of Blocks K and K'. The northern gateway is located slightly to the east of Main Street and comprises of a covered passage way, two guardrooms in the thickness of the wall and a further two guardrooms on the inner side of the wall (ibid., 115). Marshall's second administrative loci was identified in Blocks K and K', where it "occupies a central position almost at the corner of where the two chief streets, running north-south and east-west, must have crossed one another, and where there appears to have been an open square." (ibid., 171). Although Marshall comments on the similarity of the palace to ordinary houses, these structures were further differentiated by the provision of massive walls and larger courts and chambers (ibid., 141,179). Further architectural differences are made by the

provision of sandstone columns, pillars and pilasters and the presence of a turret or tower at the south-west corner of the building (ibid., 172). Dani has criticised this overall identification stating that whilst the southern part is well planned with thick walls, large courts and ornate features, the northern section is quite different (Dani, 1986,106). Block L is also furnished with massive walls and although it is badly preserved Dani has identified it as the city's official mint (ibid., 108) in contrast to Marshall's identification of a forger's workshop (Marshall, 1951,178). The buildings of K' also appear to be of a massive nature with large courts, and thus are identified as part of the palatial complex (ibid., 179). It is interesting to note that Marshall, supported by Dani (Dani, 1986,106), also identified the habitations of minor officials and royal attendants in the haphazard buildings at the back of Block J, close to the palace itself (Marshall, 1951,171). Dani has suggested a further two loci of administration within the city, one in Block F and the other in Block L. Dani reinterpreted the two rooms at the north-west corner of the stupa-shrine of 1F as guardrooms rather than shops due to the discovery of the Aramaic Asokan edict (Dani, 1986,104)

One would hope that some form of artefactual differentiation would allow us to further distinguish the palace from its neighbours within the city. However even in 1951 Marshall has stated that "The small antiquities recovered in the Taxila palace are of the same character as those from the private houses in Sirkap, consisting of coins and another of gold and silver jewellery have already been noticed." (ibid., 176). Indeed, as mentioned above, the only real differentiation is found in the presence of the terracotta coin moulds, probably evidence of an official mint. As a result we have to further examine the architectural plan of the complex to further support its identification as the prime administrative focus of the city. The Palatial structures of Blocks K, K' and L were all relatively large structural complexes with extensive suites of rooms, corridors, and courtyards occupying more than 100 square meters. All were directly accessible from Main Street, implying a level of access, either real or perceived, to the city's population. It is also interesting to note that there appears to be a distinct separation between public religious and administrative buildings, both in terms of architecture and location. It is also possible to tentatively identify an earlier layout or prototype in the south-western part of the palatial structure of Block K using the consistent thickness and alignment of walls within Marshall's plan of the palace (Figure 9). Precisely in the area which had been identified by Dani as representing a more homogeneous structure (Dani, 1986,106). Once seen in separation from the surrounding and adjacent structures and walls in the north, the structural plan become more evident. This process is further enhanced by the omission of further structures and walls from its 'large courtyard' area which is found at other sites with the same core architectural features (Figure 9). The resultant palace plan is highly comparable with the plans of contemporary Central Asian palaces. Similar palatial plans have been recorded by Fussman at Dil'berdzin Tepe, Dal'verzin Tepe and Ai Khanoum

(Fussman, 1993,96). The similarity between these structures and their cities is quite striking. In each case, the city in which they are associated dates to a Hellenistic founding; each city comprises an upper town or citadel and a lower town; and in each case the palatial property plan is found in the lower city; although this last point may reflect the limits of excavations rather than the actual distribution of the property styles. Such an identification at Sirkap provides one of the missing 'Central Asian' characteristics within the city as noted by Fussman "Moreover, Sirkap buildings, even the so-called palaces, are not built according to a Central Asian pattern well attested at Ai Khanoum (sic) and in Kusana mansions (Dil'berdzin Tepe, Dal'verzin Tepe, Sakasanoxur): a large front courtyard, a columned porch, a spacious living room set off from the remaining part of the house by a U-shaped corridor." (ibid.). Evidently such a tentative identification will have to be further examined.

A further way of testing the palatial or administrative identification of Block K, K' and L is by comparing the average size of rooms of those three blocks with the average size elsewhere within the city. The rough extent of each excavated block was therefore divided by the total number of spaces, either rooms or courtyards. In this example, spaces were defined by the implied division of space (Fletcher, 1995; Hillier and Hanson, 1984). It is, however, misleading to perceive this average as an actual representation of the average size of rooms in a given block. It does, however, reflect the density of walled, or defined spaces, within the city, and in turn indicates the amount of open space within a given block. When plotted out the results broke into a series of clusters reflecting a scale with which we could compare each block (Figure 10). The results are very clear, those blocks traditionally identified as palatial or administrative areas have fewer rooms per block than the rest of the city. Numerically, these Type V Blocks are double those of Type II. In contrast the public stupas and shrines are located in Types I, II, and III suggesting that these areas are intended to be publicly accessible as well as publicly visible. Marshall suggested that the palatial structures of Block K could be divided into a public half and a private half (Marshall, 1951,172-3). This division is further supported on the architectural grounds outlined above, as well as by the contrast in the area of rooms in the two sections. There is a marked difference with a third as much space again in the administrative or public portion in contrast to the private or 'Woman's Quarters'. On this basis the administrative section of the palace is more comparable to Block L. Thus we can summarise by stating that whilst the palatial elements of the city are architecturally distinguishable, this is not the case artefactually. However, it should also be stated that this pattern is certainly supported by other studies which have concluded that although palatial complexes may have been architecturally differentiated during the Early Historic period they often produce a very egalitarian artefactual pattern, suggesting that the ritual and temporal roles of rulers may have been exercised extremely differently (Coningham, 1993,1995).

7. Conclusion

We can now begin to make a number of preliminary conclusions about the distribution of the commercial, religious and administrative loci within the excavated portion of the lower city of Sirkap. Firstly, we can refute the suggestion that commercial activities are restricted to the frontage of Main Street. Indeed, we should critically evaluate the concept of a specific commercial locus itself, and instead suggest that in a number of cases domestic structures functioned as both residence and workshop. Such a pattern is very clearly illustrated by the distribution of metal-workers in Lalitpur, Kathmandu, where workshops are on the groundfloor and residential areas above in the upper stories. Secondly, we must accept the conclusion that the location of both private and public religious or ritual loci within the city is extremely complex. There are a number of possible foci of ritual activity throughout the city. Some of these are clearly Buddhist, but other are clearly not, thus to suggest that Taxila was a Buddhist city is a misrepresentation of the evidence, it was clearly a society which tolerated a host of religious and ritual activities. Thirdly, we find that the distribution of the average room size per block, in combination with the architectural evidence available, supports Marshall's identification of administrative loci in Blocks K and K'. Thus the resultant distibution plan of activities within the lower city of Sirkap is quite different from the traditionally held ones (Figure 11). We must also accept that our understanding of architectural and artefactual form and function at Sirkap is in its infancy. Whilst we can re-examine Marshall's original data, we also have to use new methodologies and, perhaps more importantly, new techniques to re-record and study much of the basic evidence. A study, for example, of the wall abutments within the city would allow us to begin to phase some of the structures as would an attempt to distinguish individual structures or neighbourhoods. A geophysical survey, for example, would allow us to further study the road systems and to test Marshall's hypothesis of the presence of a major cross-road close to Block K. We also need to re-examine many of the artefact categories recovered from the excavation, held in the Taxila Museum, in order to further understand their function. We are still unclear as to the social makeup of the city, including, for example, whether the population lived, as suggested by Fussman (1993), in extended families. The further development of this current methodology will allow the construction of a socio-economic model for Sirkap. With such a model we may then start discussing the ethnicity of general character of the site itself. Many scholars have entered into a debate about the Greek, Central Asian or South Asian genesis of the city, but they have been using highly superficial data - the city plans. Surely a study of the organisation of artefacts in space would present a far stronger and clearer indication of such a genesis!

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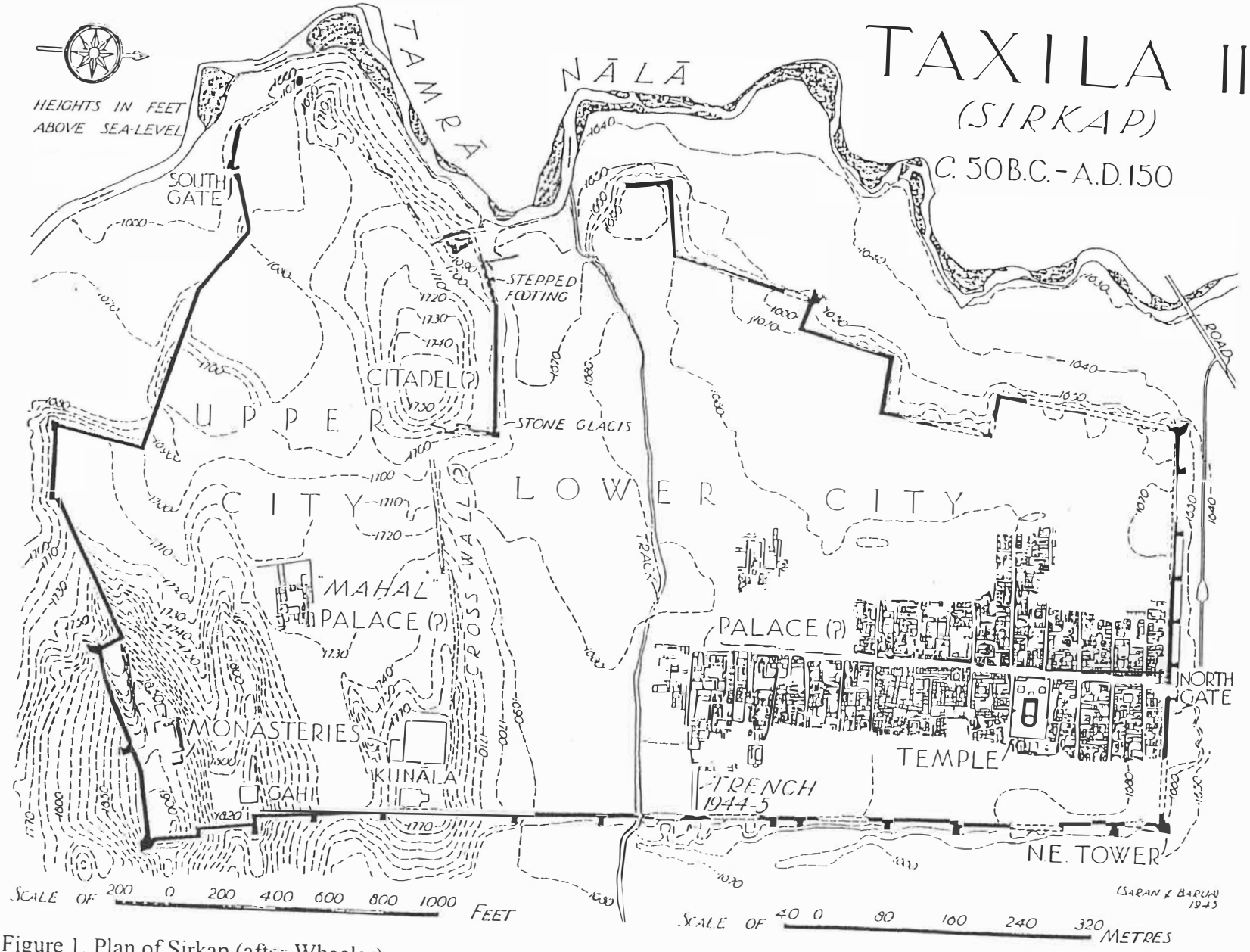


Figure 1. Plan of Sirkap (after Wheeler)

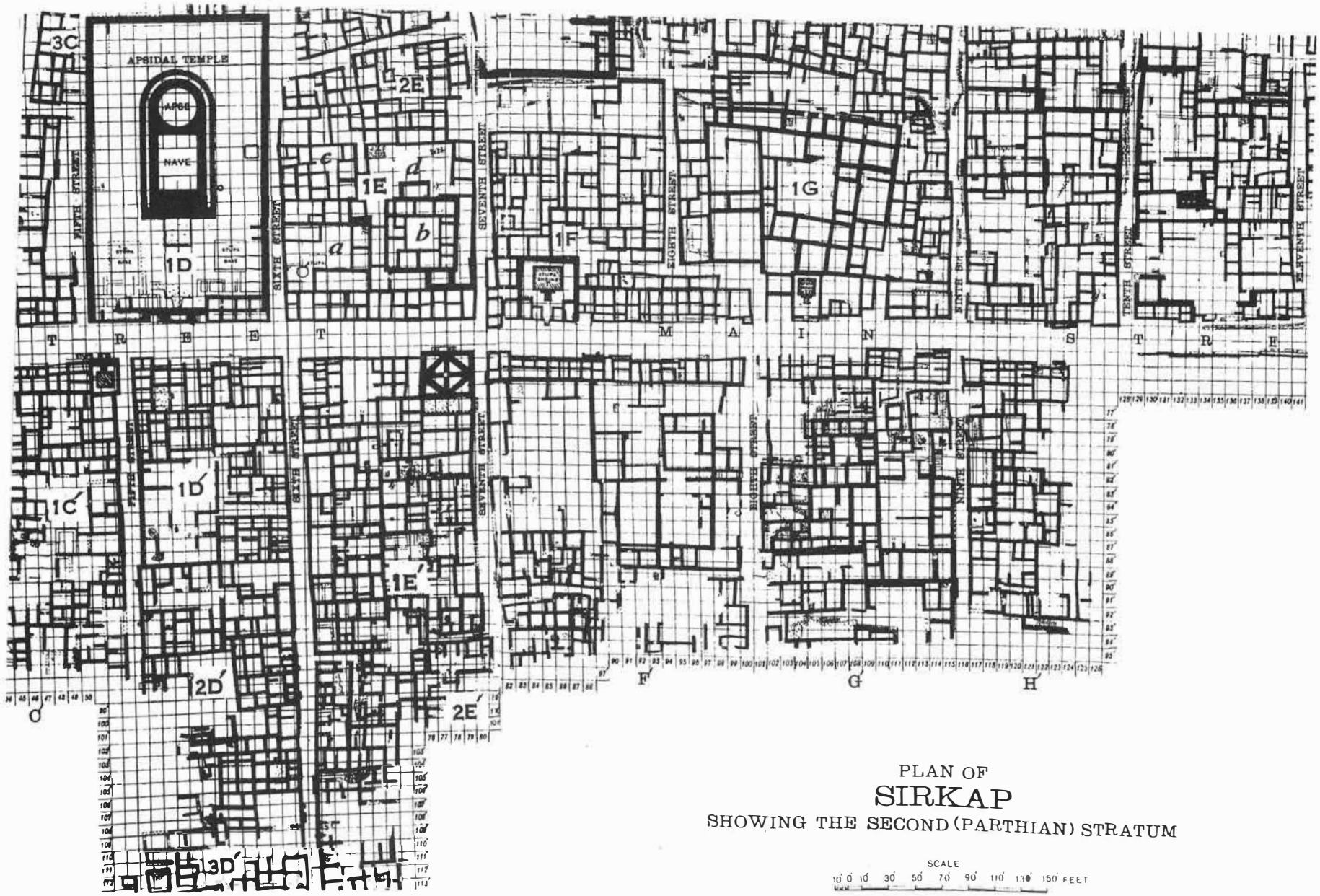


Figure 2. Detail of Sirkap (after Marshall).

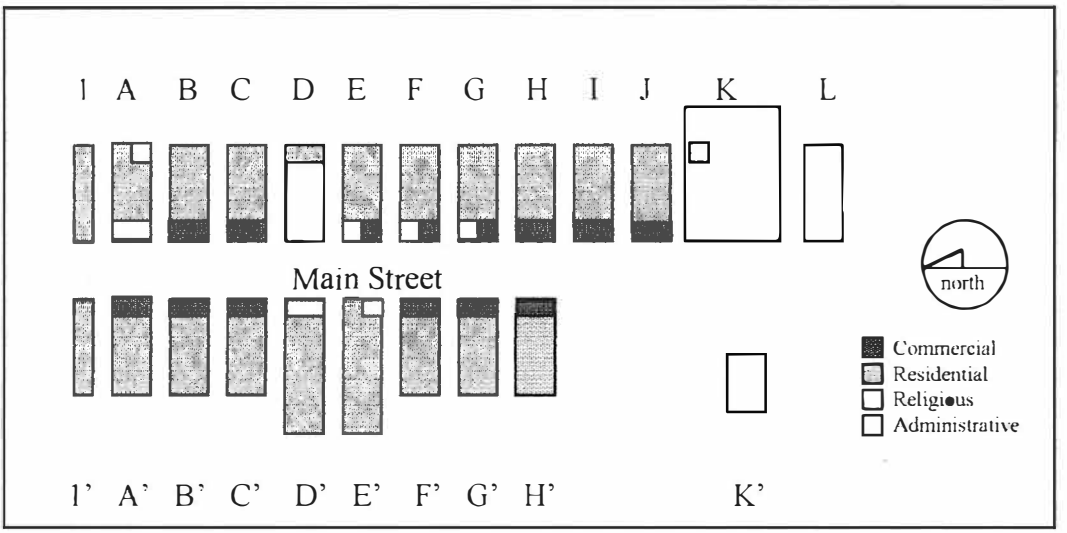
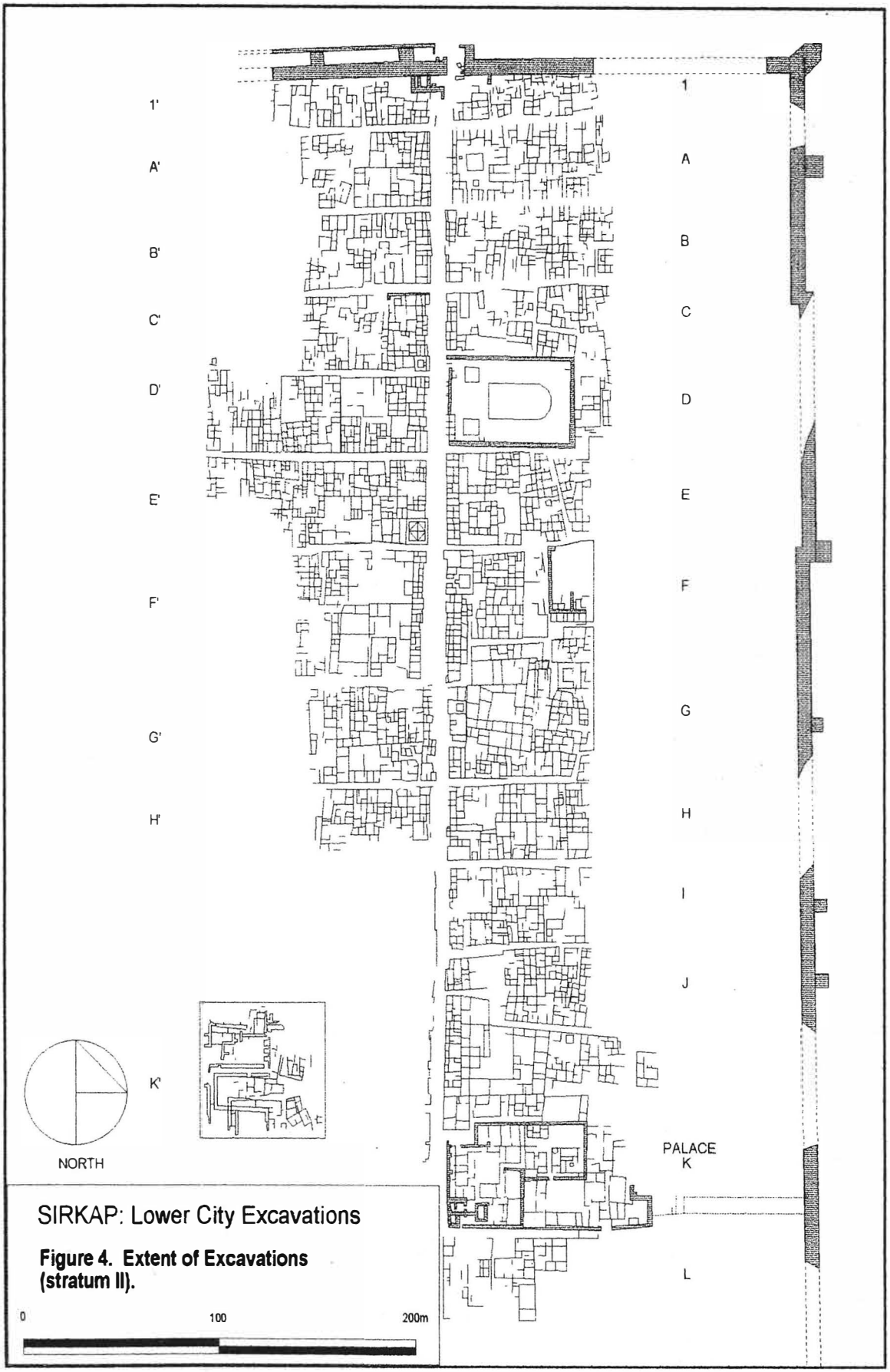


Figure 3. Schematic representation of the activity areas within the 'Lower City' at Sirkap.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SIRKAP: Lower City Excavations
Figure 4. Extent of Excavations (stratum II).
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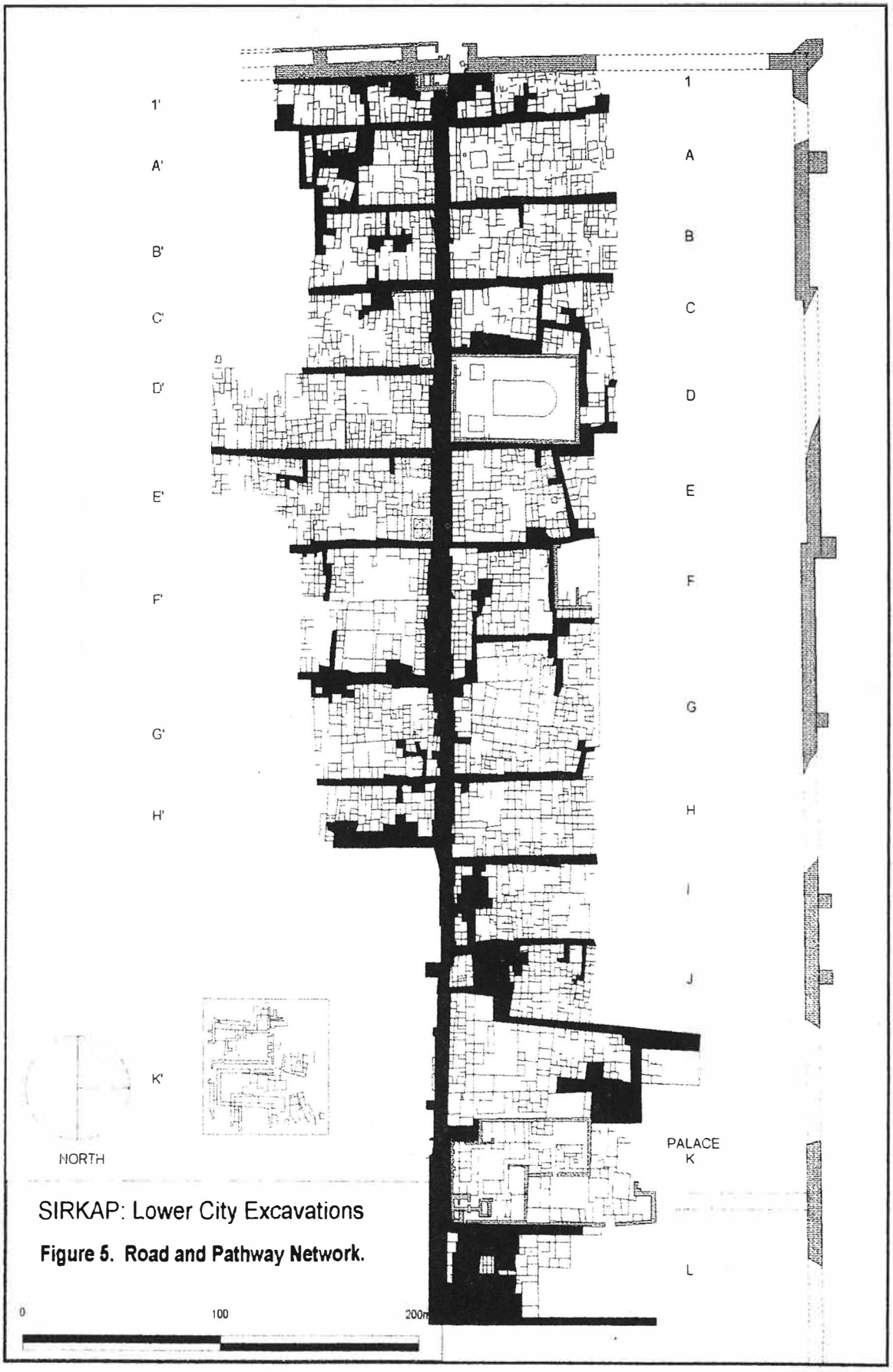


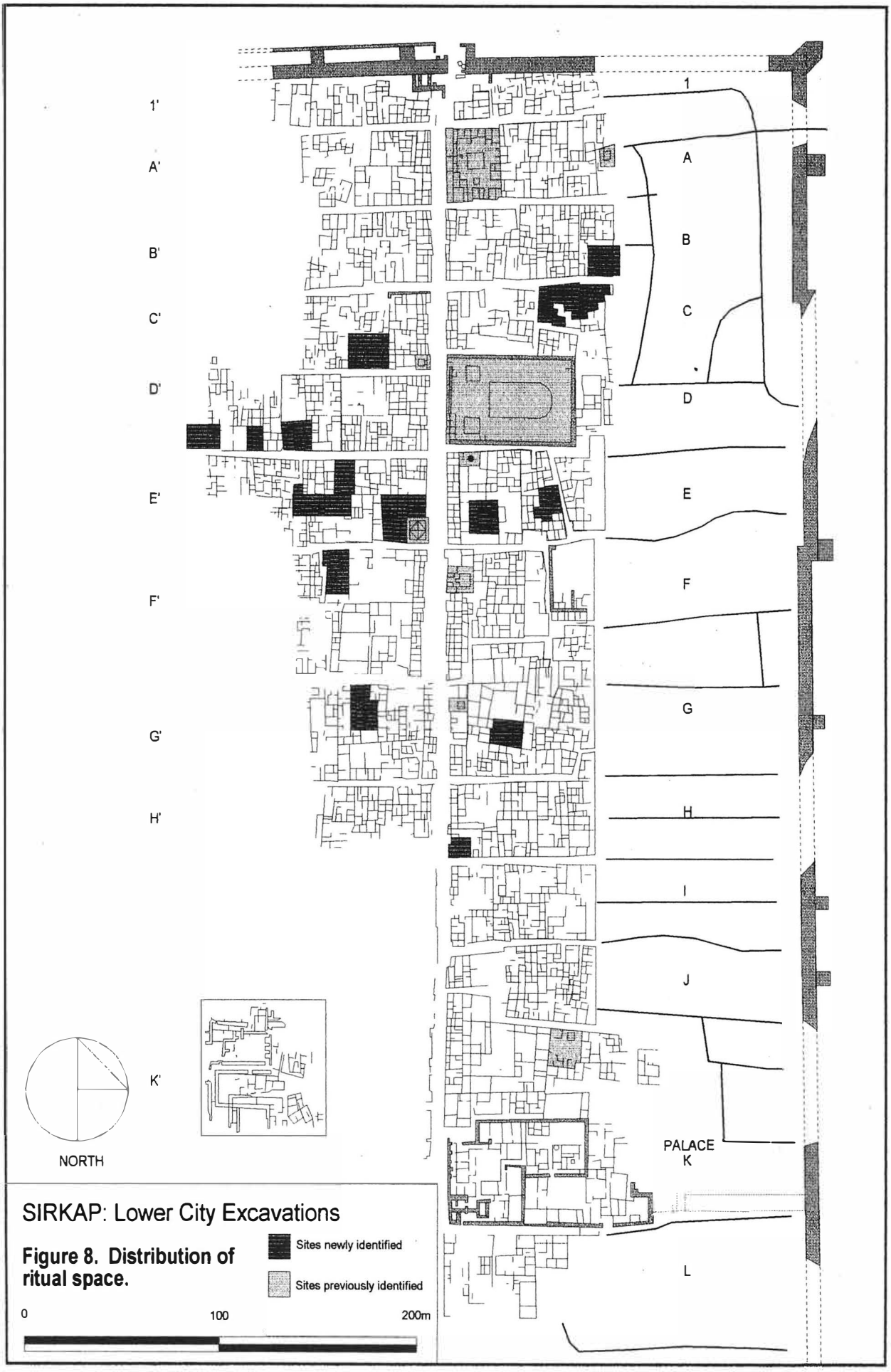
SIRKAP: Lower City Excavations

Figure 5. Road and Pathway Network.

SIRKAP: Lower City Excavations

Figure 6. Extention of roads based on interpretation of aerial photographs.

Figure 7. Distribution of commercial properties.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SIRKAP: Lower City Excavations
Figure 8. Distribution of ritual space.
Sites newly identified
Sites previously identified
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100
200m

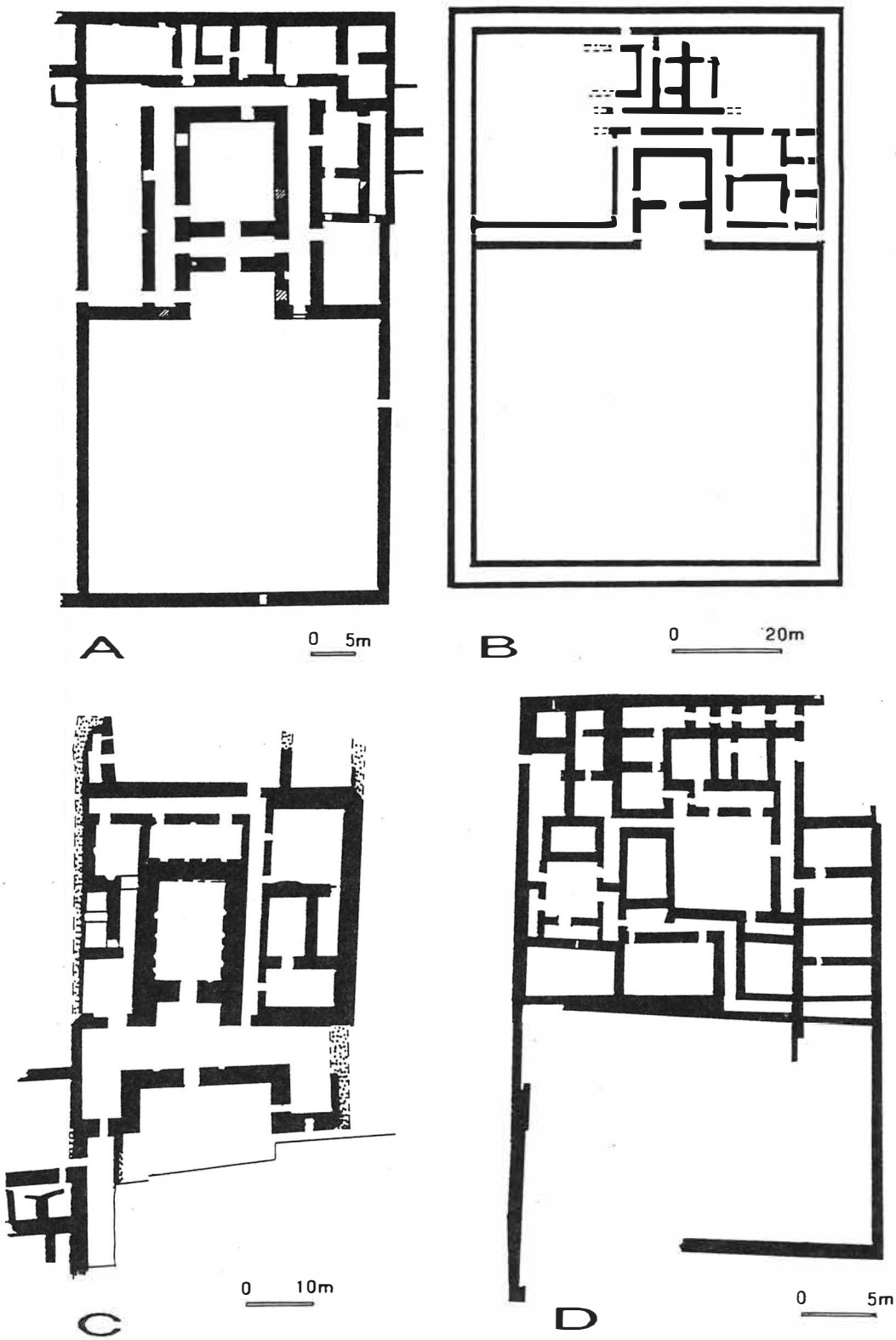

Figure 9. Palace and residential structures. A. and B. Ai Khanoum (P. Bernard), C. Dal'verzin Tepe (B. J. Staviskij), D. Sirkap.

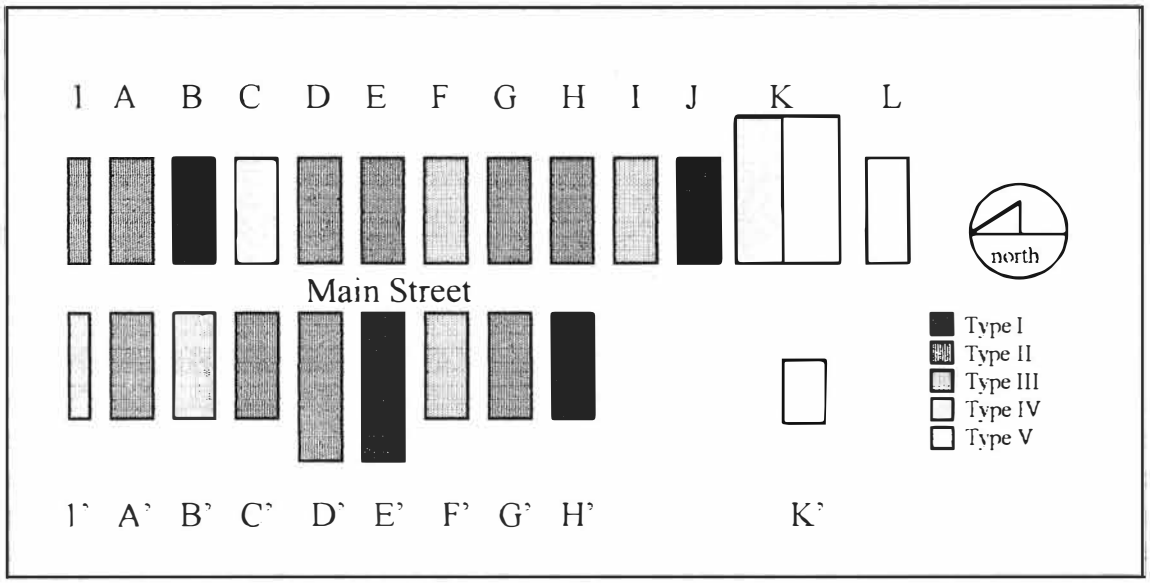

Figure 10. Schematic representation of Sirkap showing room density by block.

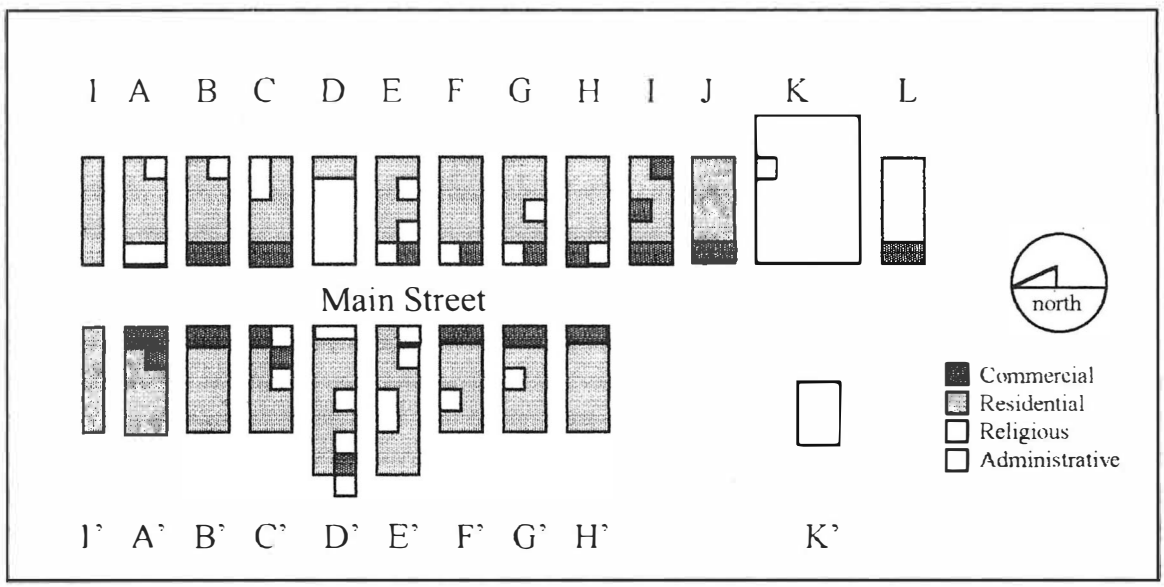

Figure 11. Schematic representation of the activity areas within the 'Lower City' at Sirkap after analysis of material culture and architectural remains.