COMPARING MEANINGS OF CENTRALITY AND AXIALITY AT THREE SPATIAL SCALES: OSTIA AND VIJAYANAGARA

by

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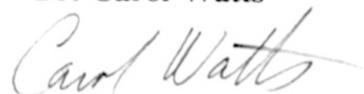
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ACKNOWLEDGEMENTS

ABSTRACT

The purpose of this research is to understand the similarities and differences in meanings interpreted for centrality and axiality between the settlements of Ostia and Vijayanagara. Ostia, the Roman harbor town founded in the fourth century B.C., is located at the mouth of the river Tiber, fifteen miles from Rome. Vijayanagara, founded in the mid-fourteenth century A.D., as the capital of the last great Hindu empire of south India, is located on the southern bank of the river Tungabhadra. Centrality and axiality are two major symbolic principles observed in at least three spatial scales at these two settlements. John M. Fritz (1984) compared spatial meanings of two settlements: Chaco Canyon and Vijayanagara, based on the theory that the culture related assumptions and behavior in each society occurred at several spatial scales. Fritz's work formed the basis for this thesis. The approach to the comparison of Ostia and Vijayanagara is similar to that of Fritz's work, except that one of the sites was Roman instead of American Indian. The comparison was conducted on three spatial scales: the temple; the Forum at Ostia and the Royal Centre at Vijayanagara; and the settlement.

This analysis revealed without doubt that there are more similarities in the meanings of centrality and axiality than differences. This is partly due to the very strong relationship between the state of art and religion of both these settlements. The desire to be closely associated with the divine 'cosmos' explained most of the

physical manifestations that are similar at Ostia and Vijayanagara. Thus the basic underlying principles of centrality and axiality at Ostia and Vijayanagara remain remarkably constant. This thesis will serve to appreciate how sacred philosophies and beliefs shared by Roman and Hindu cultures were transformed into design principles and elements.

LIST OF ILLUSTRATIONS

CHAPTER ONE: INTRODUCTION

In this study two major topics will be explored: the possibility of understanding meanings of built forms from the material remains of extinct societies or settlements; and determination of whether such meanings were tied to geographic location. The first is a theoretical issue of broad scope with methodological implications. The second topic can be approached by examining the meanings embodied in symbolic systems of various cultures.

John M. Fritz (1984) investigated these topics through a comparative study of spatial meanings in two settlements: Chaco Canyon and Vijayanagara. He suggested a method for comparing the meanings embodied in the settlements of a tribal society and an imperial state. Fritz acknowledged that the culture-related assumptions and behavior of each society occurred at several spatial scales and it is in this sense that the two settlements were compared (Fritz 1984). He stated that they were comparable "...because, in both cultures, what may be termed the 'principle of spatial similarity', interrelated meaning and form occurred at several spatial scales" (Fritz 1984:5). Further discussion of Fritz's argument on the above issue is found in the Appendix.

Fritz's comparative study is considered as the model for this research. Using his theory for comparative studies, the author compared the meanings of the major symbolic characteristics of centrality and axiality between Ostia and Vijayanagara. The comparisons were made at three spatial scales.

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Ostia

Named for its position (Latin *ostium,* door or entrance), Ostia was founded in the fourth century B.C., at the mouth of the river Tiber, fifteen miles from Rome, and therein is its importance (Figure 1). The primary function of this settlement was to defend the coast, but its position dictated a change of emphasis when Roman power was fully established. In the late Republic its main function was to receive, store, and send upstream the increasing volume of corn and other goods that Rome brought in by sea (Watts 1987). The economic importance of Ostia demanded attention of the authorities at Rome. The city was largely rebuilt during the second century, at the height of its prominence as Rome's supply capital. The population of Ostia during the principate reached sixty thousand (Meiggs 1973). New harbors were built two miles away at Portus, and by the third century Ostia began a gradual decline in importance which continued in succeeding centuries. Both the development of Ostia during the principate and its decline in the later empire are closely tied to events in the city of Rome. The pace of building at Ostia in the late first century A.D. lagged behind that of Rome by several decades. The swampy, mosquito-infested conditions that characterized Ostia at the end of antiquity made it an intolerable place to live. As a result, its ruins are well preserved, allowing one to visualize the streets of imperial Rome better than Rome itself. According to Meiggs (1973) if one desires "... to clothe the bones of the marble plan of Rome with the flesh of buildings a visit to Ostia

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is an essential complement to a visit to Rome" (Meiggs 1973). This is particularly true of the everyday commercial and domestic buildings which in Rome were either torn to pieces in the Middle Ages for their materials or lie buried deep beneath the buildings of the modern town. The state of preservation, together with the fact that Ostia was a typical Roman city, contributed to its selection for this study.

The layout of Ostia. The main outlines of the town plan of Ostia were established in the early first century B.C., when Sulla enclosed the city within the circuit of walls which, except along the sea front, were to remain the effective limit of urban development throughout antiquity. These walls enclosed an irregular trapezoidal area of some 160 acres, one long side of which fronted on to the lowest reach of the Tiber. Near the centre of the Sullan city lay the *Castrum*, the fortified military colony established by Rome at the end of the fourth century B.C. The Castrum was a rectangular walled enclosure measuring approximately 220 by 140 yards, divided into four equal quarters by two intersecting streets. The roads leading from its gates determined the physiognomy of the later town (Figure 2). From the east gate, the *decumanus* or street running east-west, was a prolongation of the major axis, running parallel with the river and dividing the eastern half of the Sullan town into two almost equal and roughly rectangular halves. The north-east quadrant, between the eastern *decumanus* and the river,
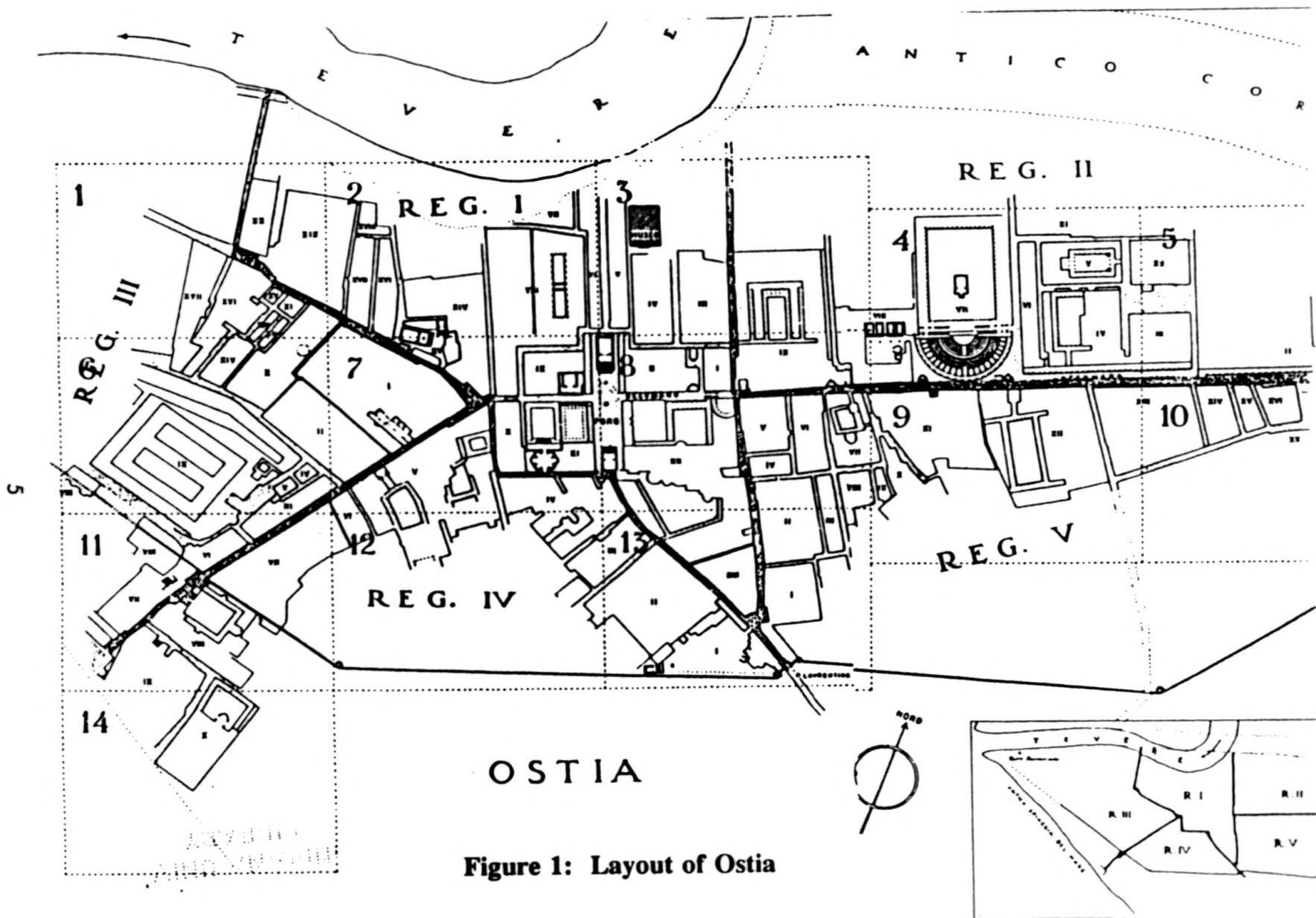
Figure 1: Layout of Ostia
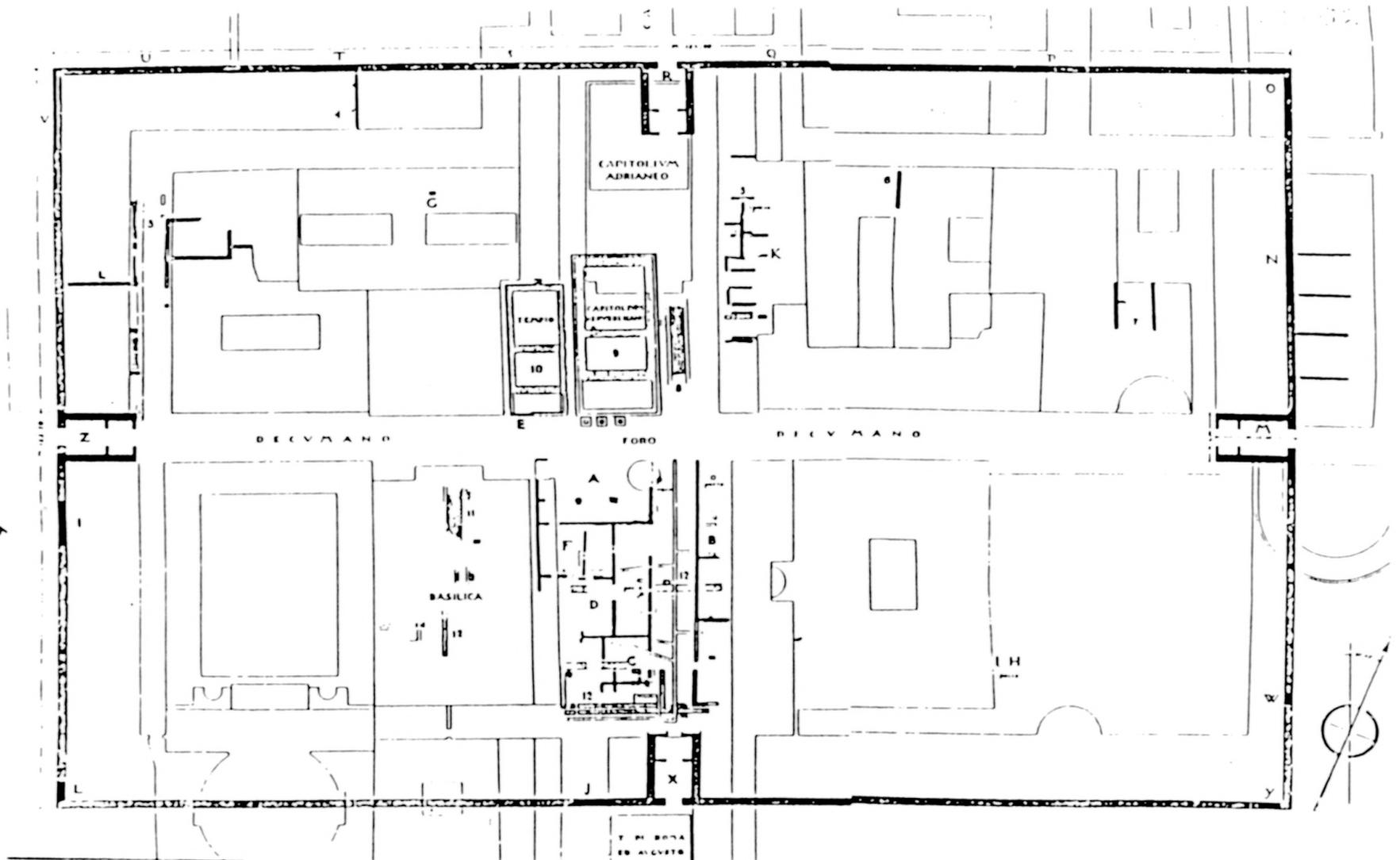
Figure 2: The fortified military camp established by Rome at the end of the fourth century B.C. was a walled rectangular enclosure, approximately 220 x 140 yards and divided into four equal quarters by two intersecting streets

was early declared public property and developed on strictly controlled rectangular lines. The rest of the town grew up around the lines established by the road to Laurentum, and by the pair of roads leading to the sea-front (western *decumanus*) and the Tiber mouth (*Via della Foce*). There was therefore, a clear contrast between those areas which were available for orderly, rectangular development (the castrum, the north-east sector, and to a lesser degree the south-east sector) and those in which development was determined by the prior existence of irregularly disposed topographical features (the whole area west and south of the castrum, between it and the sea). It was within this framework that the whole of the subsequent development of Ostia took place. By the end of the Republic several public buildings had been established.

Vijayanagara

Vijayanagara, the modern *Hampi*, is situated on the southern bank of the *Tungabhadra* river, *Hospet taluka*, in *Bellary* district, *Karnataka* state, India (Figure 3). Opposite Hampi, on the northern bank, is *Anegondi*, which served as a capital before and after the downfall of Vijayanagara. Vijayanagara, 'the city of Victory' was the capital of the last great Hindu empire of south India . Founded in the middle of the fourteenth century A.D., Vijayanagara rapidly became one of the largest and wealthiest cities of its day. This reputation even reached Europe, and several foreign visitors to Vijayanagara left vivid accounts

of life at the capital. In 1565 the city was sacked by Muslim armies and abandoned. Vijayanagara offers a unique opportunity to investigate medieval Hindu urbanism. Spread over an area of more than 25 sq. km., the city consists of many standing and ruined structures, both sacred and secular. In addition to these plainly visible remains, there are large expanses of uncleared rubble piles and numerous overgrown mounds. In the 1970s, Vijayanagara became one of three medieval archaeological sites designated by the Government of India as a "national project" for excavation.

The Layout of Vijayanagara. No one visiting the ruins of Vijayanagara can be unaffected by the strangely wild landscape in which the capital is situated. Although the rocky outcrops of granite boulders that surround the city, and intrude into the various city zones certainly provided effective protection from the Muslim invaders, this environment also embodies potent sacred associations (Fritz & Michell 1984). Perhaps the most important feature of Vijayanagara's setting is the natural basin in which the city is located (Figure 4). Through this basin flows the Tungabhadra River in a northeasterly direction. To the north, rocky outcrops partly contain the river in a narrow gorge; elsewhere, these hills open up to define a wide valley through which the river and its branches flow. Overlooking the south bank of the river is a high rocky ridge with several elevated outcrops (such as the Hemakuta and Matanga hills). This ridge, together with another that runs

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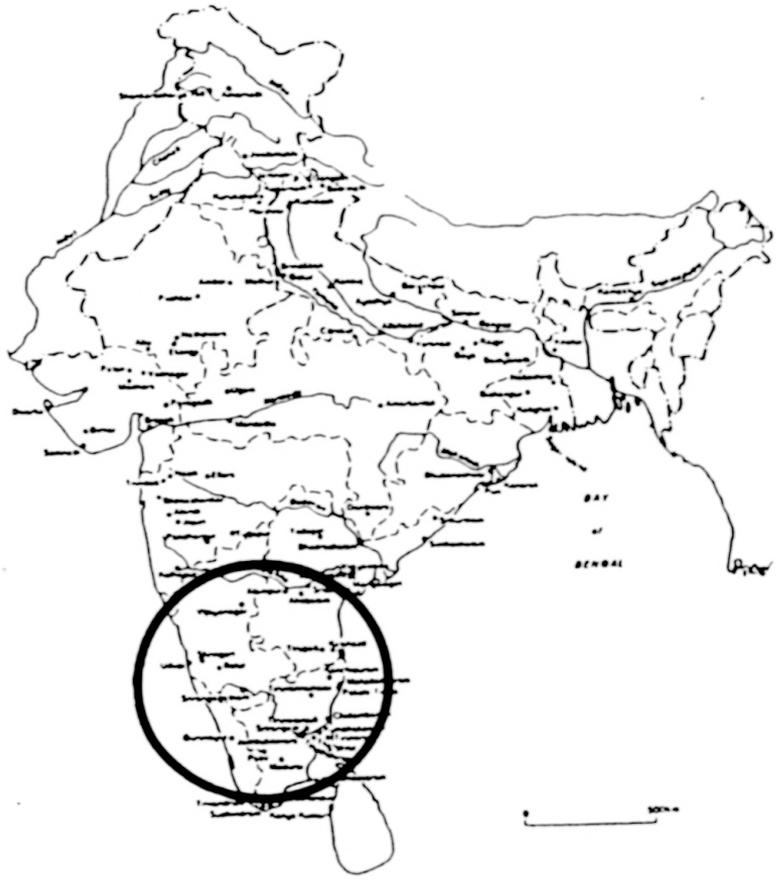
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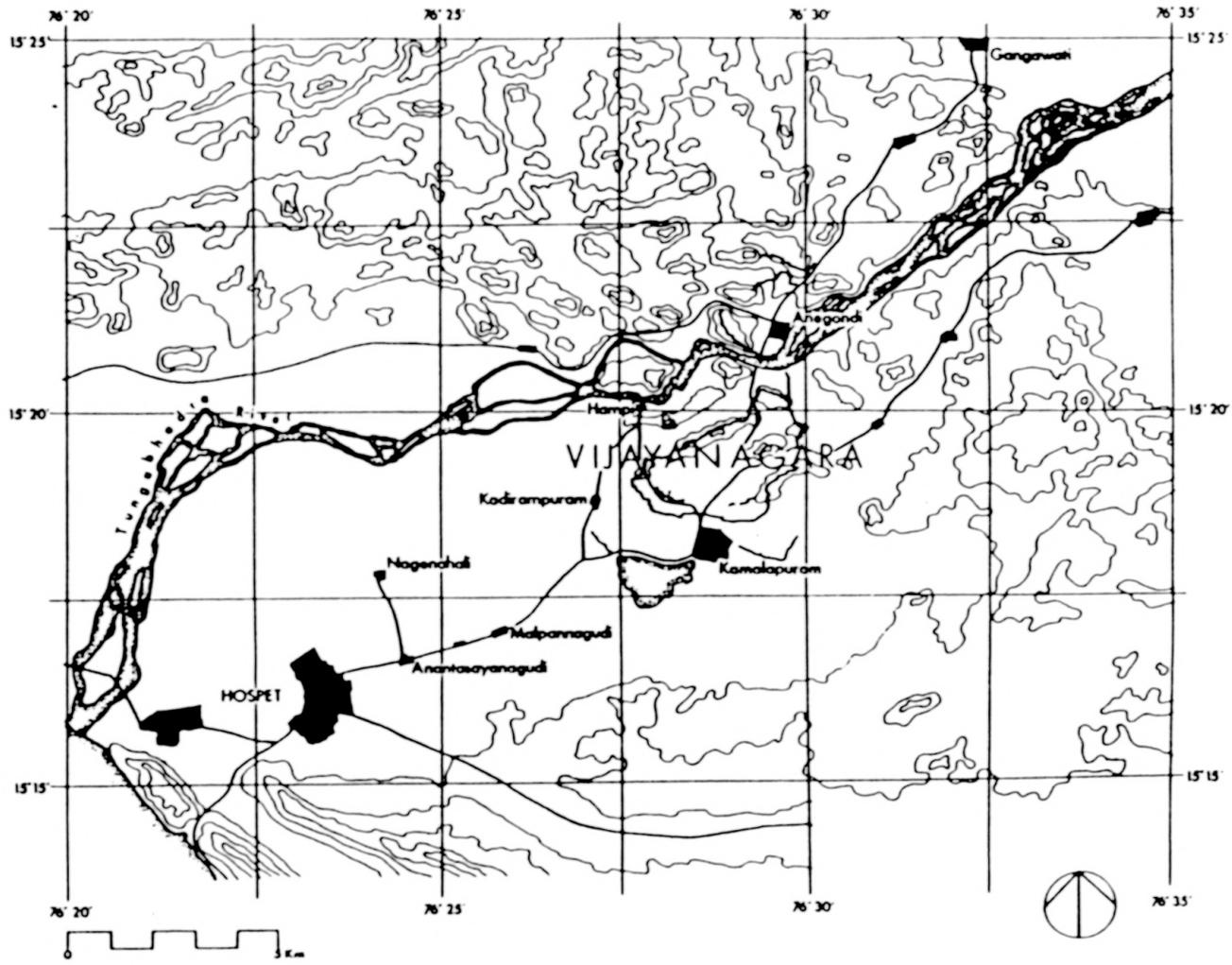
Figure 4: Vijayanagara in its regional context

parallel further south, defines a richly irrigated valley. Gradually the hills disappear altogether and the landscape becomes increasingly flat and open.

Ostia and Vijayanagara differ in many major respects. However, they are similar as locations in which inhabitants constructed monumental structures according to their respective formal/sacred principles. In neither case do written records of the period provide information as to the meanings that these particular settlements had for their inhabitants, although records are available in general for both Roman and Hindu cities. Therefore, it is from the material remains of Ostia and Vijayanagara that one can look for the meanings of the built forms.

Definitions of Centrality and Axiality

Centrality and axiality, the two major symbolic principles considered for discussion, are not limited only to geometries. Instead, they are discussed with respect to the functional and/or sacred purpose of existence. The Oxford English dictionary defined axis and centre as follows:

AXIS: Axis of symmetrical arrangement

. The straight line about which the parts of a body or systems are symmetrically arranged.

CENTRE: (Of other things) the middle point.

. The point at equal distance from the extremities of a line, of any regular surface or solid, or at a mean distance from all points in the periphery of an irregular surface or body (centre of magnitude): the central or middle point.

According to Bloomer and Moore the axis is a basic design element which relates to the human body image, defining front and back, left and right, and up and down, in relation to the observer (Bloomer & Moore 1971). A figure is declared to have obtained axiality when it maintains symmetric qualities such as translation and reflection in two or three dimensional space (Fritz 1984).

In translation a figure is moved laterally along an axis,

…………b b b b b b…………

while in reflection a figure is mirrored across an axis.

d : b

In two dimensional spaces, only two figures can be reflected while any number can be generated along an axis or about a point (Washburn 1977).

Centrality is that quality of the space which recognizes the intersection of two or more symbolic axes, usually horizontal and vertical (Norberg-Schulz 1984). The major symmetric quality that is essential for proof of centrality in a figure is 'rotation'. In rotation a figure is moved about a point.

d. ⟳ .p
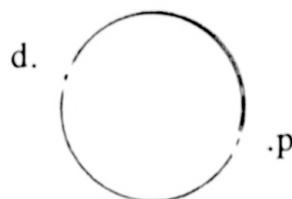
Reasons For Selecting Ostia and Vijayanagara

It is these characteristics that underline the organizations of both Ostia and Vijayanagara. At least three different spatial scales share such relationships! the aggregate of the settlements as such; the settlement centre, such as the Forum at Ostia and the Royal Centre at Vijayanagara; and the temple complex in and around the central public spaces.

The reasons for selecting Ostia and Vijayanagara specifically for the case study are three fold. First, the cultural contrast these two possess is an essential criteria for understanding their geographical ties with respect to their meanings. Next, both have significant monumental quality. Ostia, a Roman settlement, and Vijayanagara, a medieval south Indian capital, are well known for their monumental excellence. The relevant difference between monumental and other types of buildings or settlements (e.g., Vernacular and Modern) is a higher level of abstraction represented by monumental architecture. "Monumental buildings stress aspects of symbolization, and contribute to the constitution of architectural languages which form an important part of cultural development" (Norberg-Schulz 1984:434). The two cities chosen also represent an explicit model for their respective culture in antiquity, as they are among the best preserved archaeological sites. Less excavation is required, providing greater authenticity to visualize and interpret meanings from the material forms.

The third and most compelling reason was the availability of resources for case study. The most authentic source would be the outcome of first hand field work, but due to various limitations, field work was almost impossible. However, authentic sources of literature and graphical works, such as maps, were readily available. Most of the references and citations for Vijayanagara were made from the works of John M. Fritz, George Michell and Burton Stein, whose works are outstanding in regard to this topic. The author's interest in this subject is due in part to the encouragement and confidence received from Fritz and Michell while working on his B.Arch thesis, a design proposal for an Archaeological Museum and Research Centre at *Hampi* (a small village that existed and still exists within the Vijayanagara ruins, in fact the whole site is widely known as Hampi rather than Vijayanagara). As a part of the site analysis and research, the author was on site for a month and a half, during which there existed great opportunity to hear Fritz's and Michell's opinions on Vijayanagara and its potential for further research.

The expertise of Dr. Carol Watts, major thesis advisor, on Ostia was invaluable. Watts' paper on "Geometric Ordering of the Garden Houses at Ostia" in the Journal of the Society of Architectural Historians (Watts 1986), as well as her Ph.D dissertation on "A Pattern Language for Houses at Pompeii, Herculaneum and Ostia" were major resources (Watts Sep 1987). Dr. Watts' first

hand information, graphical and written works provided the best alternative to a site visit.

INTENT OF STUDY

In the past, there has been vigorous research on symbolism of various cultures in architecture, art and many other related fields. Highly advanced works on religious symbolism and its relations to the present world exist. Very little research has been undertaken on Roman and Hindu cross - cultural studies. Amos Rapoport (1984) criticized the cross - cultural studies which draw universal conclusions based on the western tradition and also the recent developments that overlook the historical dimension.

The ability to make valid cultural analysis and decisions depends on the existence of valid theory. But the existing theories tend to be based on the Western tradition, neglecting the many others - African, Asian, Middle Eastern, pre-Columbian, and Latin American. They tend also to be based on recent developments and to overlook the historical dimension. Thus it is very important now to consider settlements both through time and cross-culturally (Rapoport 1979:31).

The idea of this research is to initiate valid cross -   cultural analysis by comparing specific characteristic principles in a Western and Asian culture in history. Comparison of meanings of centrality and axiality in two particular cultures - one in Europe and the other in Asia - shows how meaning is embodied in, and can be understood from settlements (Fritz 1984). The result will serve as representative material for the shared sacred philosophies and beliefs of Hindu

and Roman culture and how they were transformed into design principles and elements. This study also stands as a verification of John M. Fritz's approach to comparing two settlements such as Chaco canyon and Vijayanagara.

CHAPTER TWO: METHODOLOGY

Methodological process was divided into a number of phases, each consisting of sequenced steps.

PHASE I: The first phase of this study involved selection of a theoretical base for the comparison. The literature was reviewed to gain an understanding of current comparison studies and their bases. John M. Fritz's method to identify "principles of spatial similarity", interrelated meanings and forms at different scales between the cultures compared, formed a strong theoretical foundation for this research (Fritz 1984). Ostia and Vijayanagara show similarities in their major symbolic characteristics, namely centrality and axiality, for at least three spatial scales. Centrality and axiality are the only two major symbolic principles that were studied; however, some geometrical pattern exercises, which are essential for proving the selected symbolic systems and their presence, were made. This discussion was supported with necessary graphical references. The following steps based upon the spatial scales, were anticipated during the proposal stage.

. **SETTLEMENT**
. **SETTLEMENT CENTRE: FORUM AT OSTIA AND ROYAL CENTRE AT VIJAYANAGARA**
. **TEMPLE: CAPITOLIUM AT OSTIA AND RAMACHANDRA TEMPLE AT VIJAYANAGARA**

Figures 5 provides a graphical summary of this approach. However, it was later realized that the meanings of the symbolic characteristics at these scales can

PHASE – I
Show similarities in centrality and
axiality, for three different scales
for Ostia and Vijayanagara

STEP – I
Settlement as a whole

STEP – II
Settlement centers: Forum at Ostia
and Royal center at Vijayanagara

STEP – III
Temple / Shrine: Round Temple at
Ostia and Ramachandra Temple at
Vijayanagara

PHASE – II
Comparing the meanings of the
identified centrality and axiality of
Ostia and Vijayanagara

STEP – I
Settlement scale

STEP – II
Settlement center: Forum at Ostia
and Royal center at Vijayanagara

STEP – III
Temple / Shrine: Round Temple at
Ostia and Ramachandra Temple at
Vijayanagara

PHASE – III
Conclusions

M E T H O D O L O G Y

Figure 5: A methodological approach proposed at the
proposal stage

be understood better when the each settlement is analyzed individually and when the scales are studied in the reverse order as follows:

OSTIA
. **TEMPLE: The Capitolium**
. **SETTLEMENT CENTRE: The Forum**
. **SETTLEMENT**

VIJAYANAGARA
. **TEMPLE: The Ramachandra Temple**
. **SETTLEMENT CENTRE: The Royal Centre**
. **SETTLEMENT**

Conclusions were individually made at the end of each settlement.

PHASE II: The second phase involved the comparison of meanings of centrality and axiality, between Ostia and Vijayanagara. The meanings of centrality and axiality were independently identified for both Ostia and Vijayanagara. This phase was divided into the following three steps (Figure 6).

. **Temple scale.** This step involved the comparison of the meanings of centrality and axiality of the temples at Ostia and Vijayanagara, especially the Capitolium at Ostia and the Ramachandra temple at Vijayanagara. First, the spatial scales of the temples were introduced. Next, the meanings of centrality and axiality at this scale were reviewed simultaneously since they are highly interrelated and integrated issues. This process of exploring the similarities and differences in the meanings involved a series of steps, moving back and forth between gathering information from authentic sources about centrality and axiality

PHASE – I

Identify and analyze centrality and axiality for three different scales at Ostia and Vijayanagara

PART – A

STEP – I
Temple:
Capitolium

STEP – II
Settlement centre:
Forum

STEP – III
Settlement

PART – B

STEP – I
Temple:
Ramachandra Temple

STEP – II
Settlement centre:
Royal Center

STEP – III
Settlement

Compare meanings of centrality and axiality at three different scales for Ostia and Vijayanagara

. Temple scale
. Settlement Centre scale: Forum & Royal Centre
. Settlement scale

PHASE – III

Conclusions

M E T H O D O L O G Y

Figure 6: The revised methodology followed for this study

at this scale, discussing their interpretations and meanings and evaluating them graphically.

. **Settlement centre scale.** This step involved comparison of the meanings of centrality and axiality at the Forum of Ostia and the Royal Centre of Vijayanagara. The process followed is very similar to that in the previous step.

. **Settlement scale.** In this step, the meanings of centrality and axiality of the whole settlement of Ostia and Vijayanagara were compared. The process again is very similar to that in the previous step.

The final stage involved the possible interpretation of the analyzed similarities and differences between the two settlements at the considered scales and conclusions about their cultural similarities and differences as well.

PHASE III: The third and final phase of this study involved general conclusion and interpretations of the analysis made with the identification of:

. Presence or absence of symbolic principles anticipated in both the cultures; and

. Similarities and differences in meanings and interpretations between the two culture. Also this phase involved the discussion of the possible answers to the problems posed at the beginning of this research, with important suggestions to future research on this topic.

CHAPTER THREE: IDENTIFICATION OF CENTRALITY AND AXIALITY IN THREE SPATIAL SCALES AT VIJAYANAGARA

In 1984, during his research on the spatial patterns at Vijayanagara, John M. Fritz observed the occurrence of similarity in the spatial patterns at different scales. Fritz depended on three aspects of the imperial city as the material embodiment of the meanings he interpreted: (1) the structure of the urban plan, (2) the organization of movement, and (3) the mythological associations of the site. He proposed that the spatial pattern of the whole city follow the fundamental patterns of the temples at Vijayanagara.

Most temples face east and this is the most auspicious orientation. The principal shrine consists of several components: an east-facing sanctuary which holds the image of the god is positioned in the western half of a large compound (when the temples shifted in their orientation, the relation to other elements shifted accordingly). The chamber holding the shrine with highest rank is usually the smallest and the tallest structure (Figure 7). Two or more antechambers lead to the shrine, an enclosed pillared hall and a larger open pillared hall that abut the antechambers on the east, forming one building. A smaller shrine with antechamber and pillared hall is often located near the main shrine. Holding the image of the divine consort, this smaller shrine is normally placed to the north and slightly to the west - that is, to the left and behind the god.
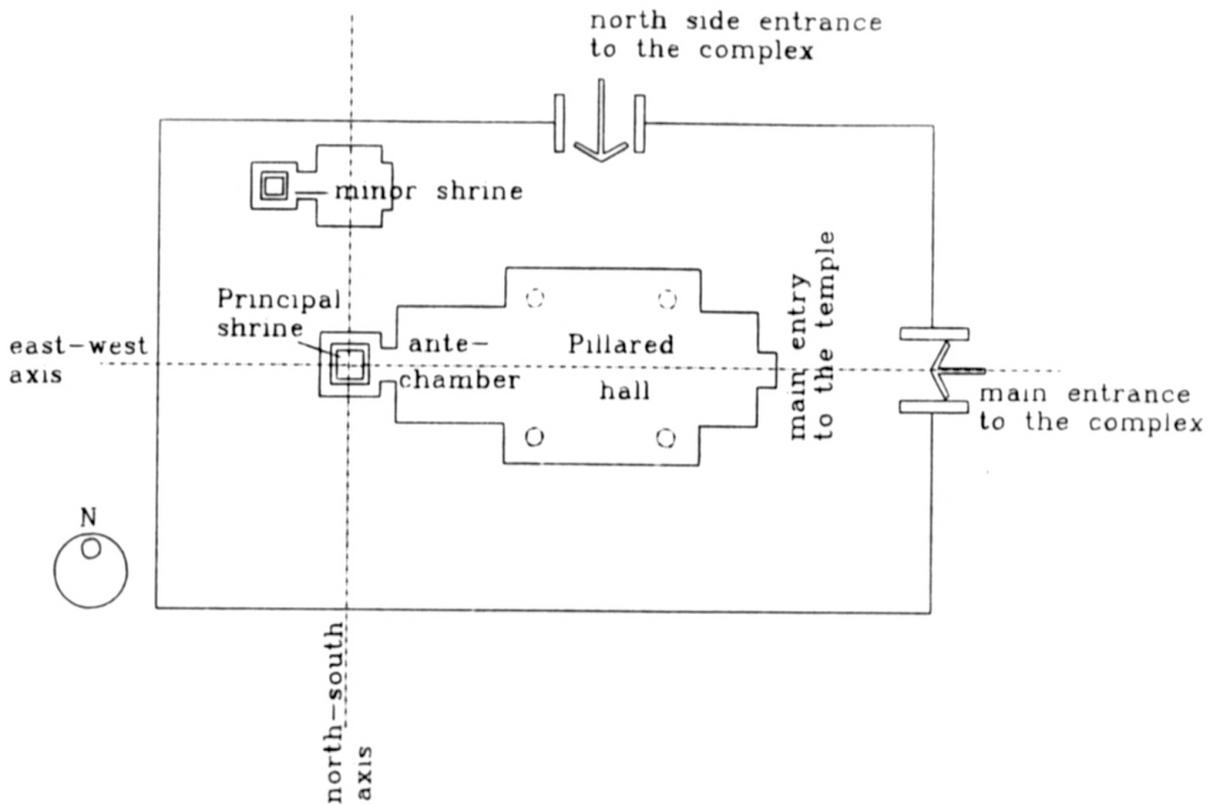
Figure 7: Typical layout of a temple at Vijayanagara

Temples at Royal centre, Vijayanagara. Though the royal centre at Vijayanagara never functioned as a holy place, compared to the various locations along the Tungabhadra river and on the rocky outcrops nearby, a great number of temples are nevertheless found in this zone (Figure 8). Two sacred complexes within the royal centre appear to be of particular importance - the Ramachandra Temple located in the middle of the enclosures, and the Virupaksha Temple about 500m. due west. These two seem to possess contrasting affiliations, one *Vaishnava* and the other *Shiva* (Fritz, Michell, and Nagaraja Rao 1985, p 56).
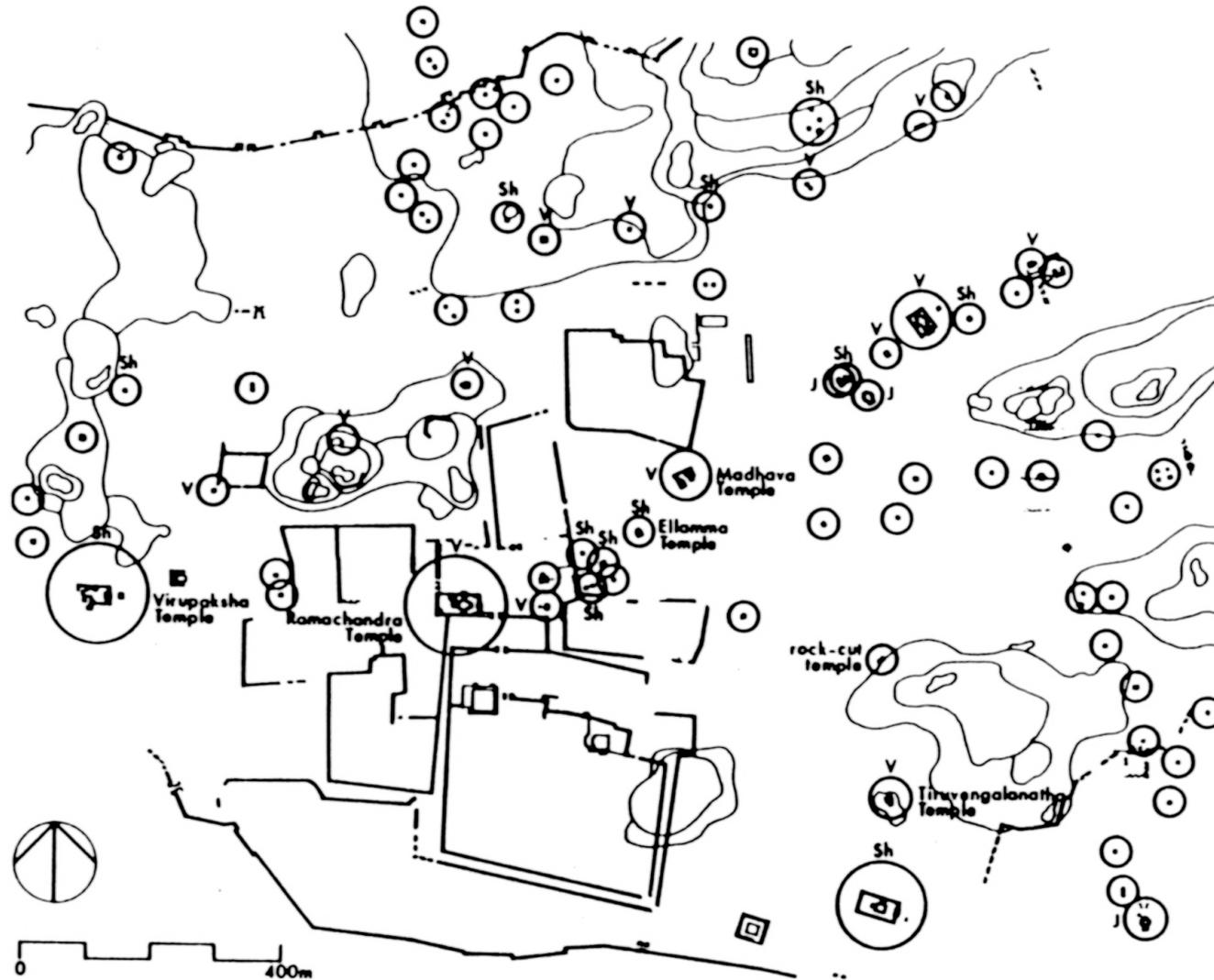
Figure 8: Location of temples (circled) within the Royal Centre, indicating possible Shiva (Sh), Vaishnava (V) or Jaina (J) cults

The road (NE1., Figure 17) proceeding northeastward from the Ramachandra Temple is lined with numerous temples and shrines, all the way to the gateway in the fortified walls. Here are found *Vaishnava* and *Shiva* shrines, two *Jaina* temples, and even one sanctuary currently in worship dedicated to an aspect of *Devi*. In the valleys east and southeast of the enclosures many temples are found, often ruined and partly buried, lining the principal roads to the north and the granite ridges. One of the largest sacred complexes is found to the southeast; nearby this is the Tiruvengalanatha Temple.

The spatial, functional, and symbolic qualities of temples. Worshippers approach the god from the east, along an axis that may lead through one or more gateways in surrounding compounds. Depending on their caste, and hence degree of ritual purity, they may ascend the steps to the open hall and enter a door leading to the enclosed hall. (Near the entry they may ring a bell which wakens the god and summons the priest.) Devotees of the god may approach only as far as the entry to the antechamber. In these small rooms are positioned the priests who receive offerings and return certain offerings to the worshippers as gifts from the god. A daily routine governs the activities of god and priest: the god (positioned in his sanctuary to the extreme west) must be bedecked with jewelry, fed, and entertained by priests (positioned to the east). Thus the position of god,

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the symbolic centre of the temple, is considered as a place beyond the material world.

"Entertainment" includes chanting of sacred texts, playing by temple musicians, and in the past, dancing by temple women (a practice outlawed during the British period). The image of the god and his consort may be brought to the open pillared hall, placed on a suspended platform and swung back and forth while covered with flowers and colored powders, intoxicated with rich incense, and otherwise amused. Periodically, the god (and sometimes his consort) is taken from the temple and paraded on a palanquin through the temple precincts - less frequently through the village and fields surrounding the temple. In some temples, the god is placed on a massive chariot and wheeled through the streets of the town. On other occasions he is placed on a raft and rowed around a large tank (reservoir) associated with the temple. Thousands of pilgrims attend these festivals.

In temples, intermediatory figures, the priests, are positioned and moved between the god and the worshippers. The space given to the figure of high rank is small relative to that given to his intermediaries, devotees and entertainers. However, as a symbol of the highest rank, this chamber is usually the tallest, extremely articulated and is also positioned well to the west of the centre of the mass of the building or complex containing the building (Figure 12). The chief figure is male and his female consort is placed in a separate structure which is to
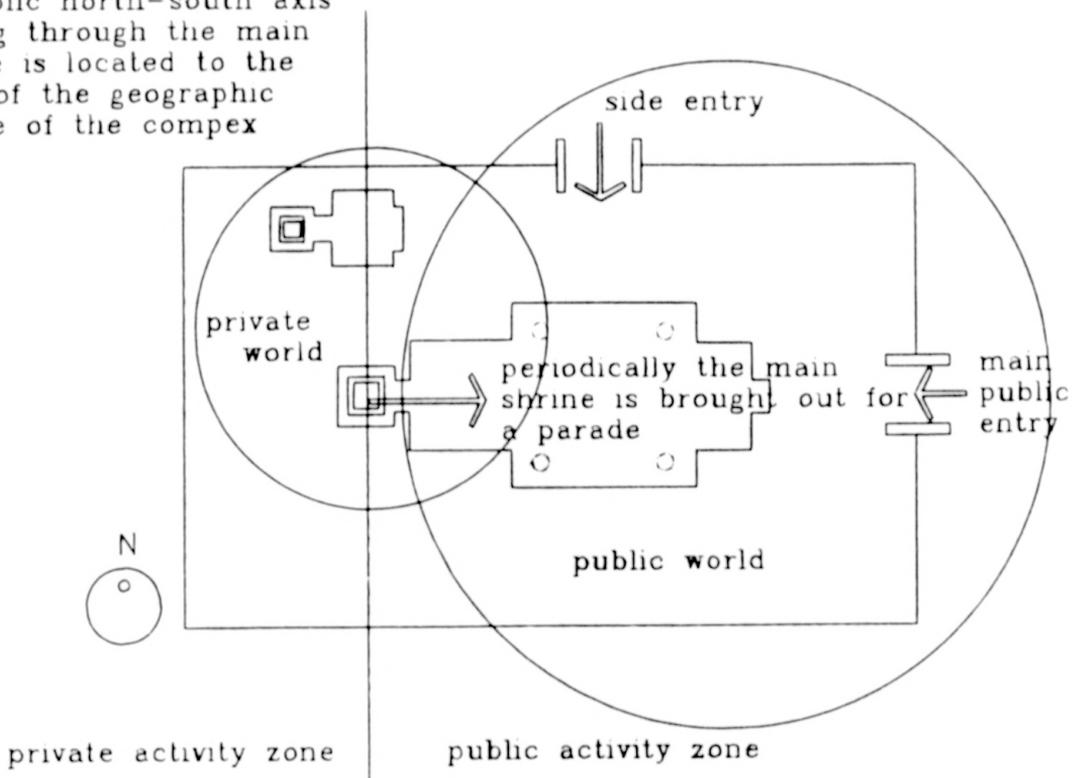
Figure 9: Activity patterns for a typical temple complex at Vijayanagara

the west. The inner household is similarly to the west (in temples, the most

private aspects of the god's domestic life - going to sleep with his consort and

waking up - together with associated rituals, take place in zones to the west of his

shrine). Thus, one may postulate a distinction between the public world of the

chief figure, which mostly involves men and is situated to the east, and his private

world, which mostly involves women and is located to the west. In his public life,

the chief figure faces the east. Though not all the aspects of the plan of temples

are similar at other scales at Vijayanagara, the following characteristics are

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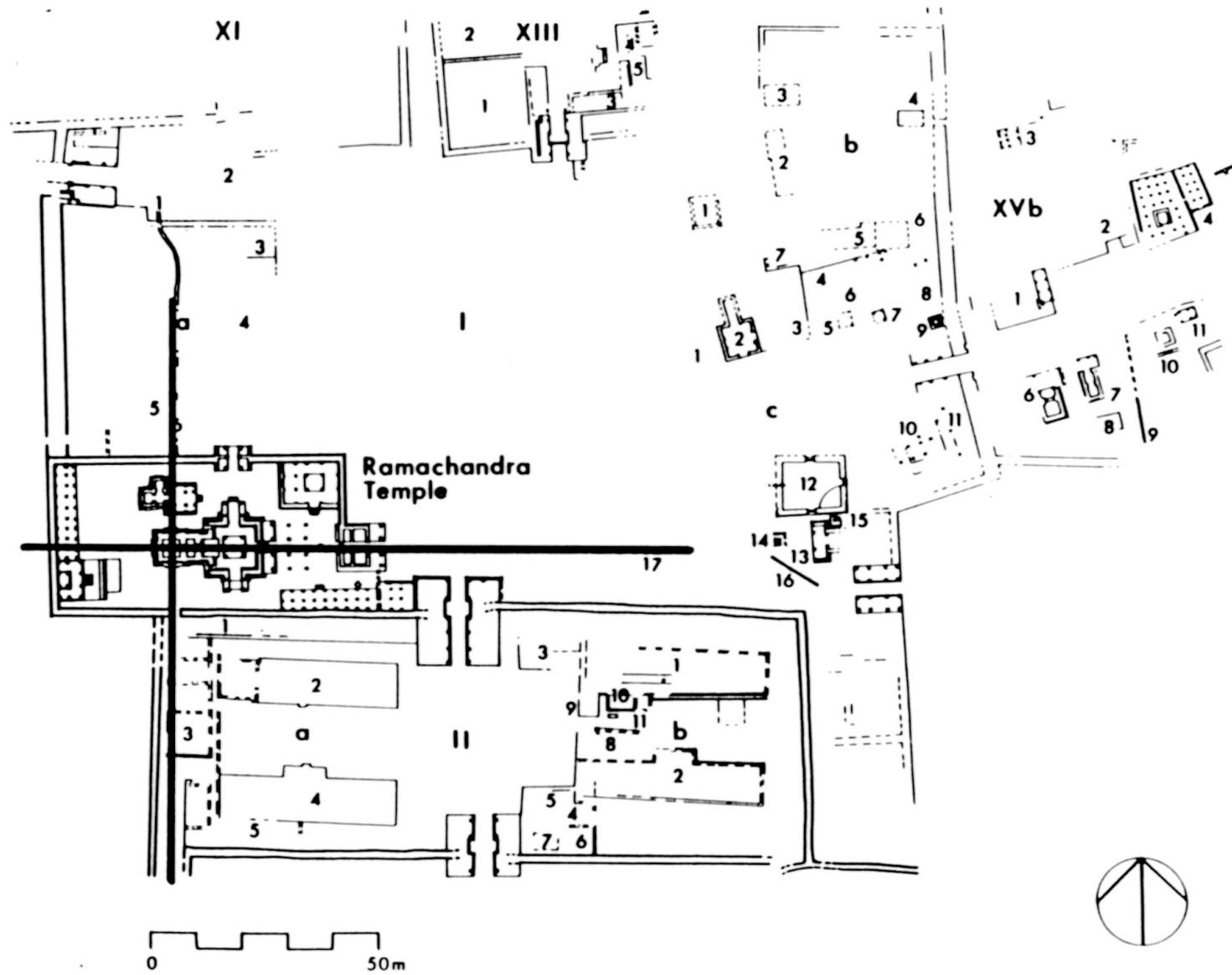
Figure 10: Location of Ramachandra temple complex
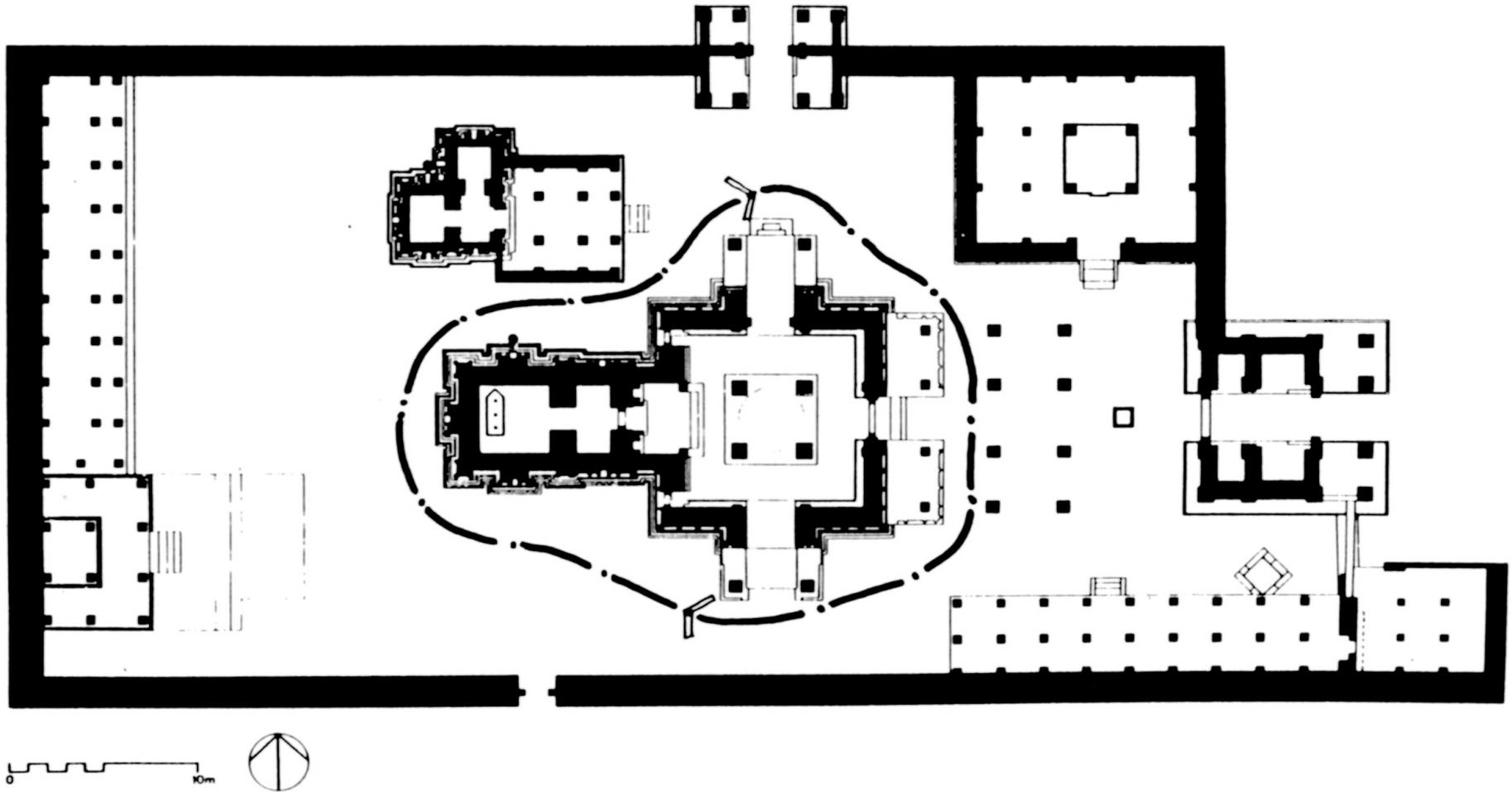
Figure 11: Plan of Ramachandra temple complex showing the circumambulatory route around the principal shrine

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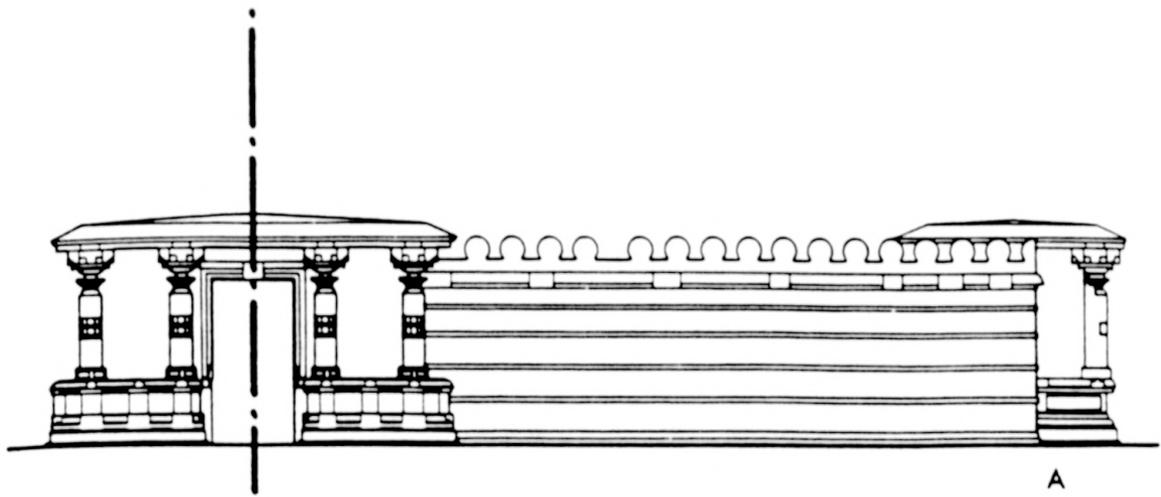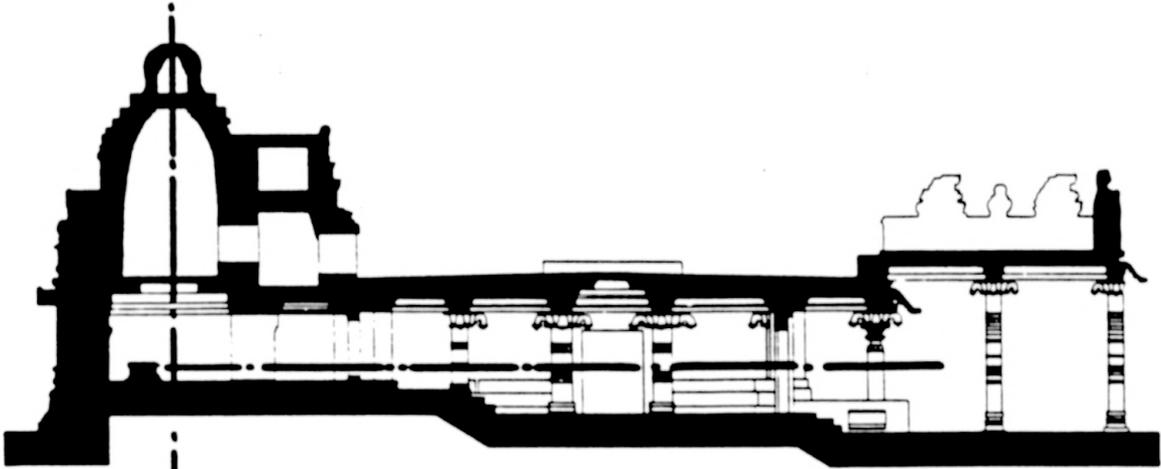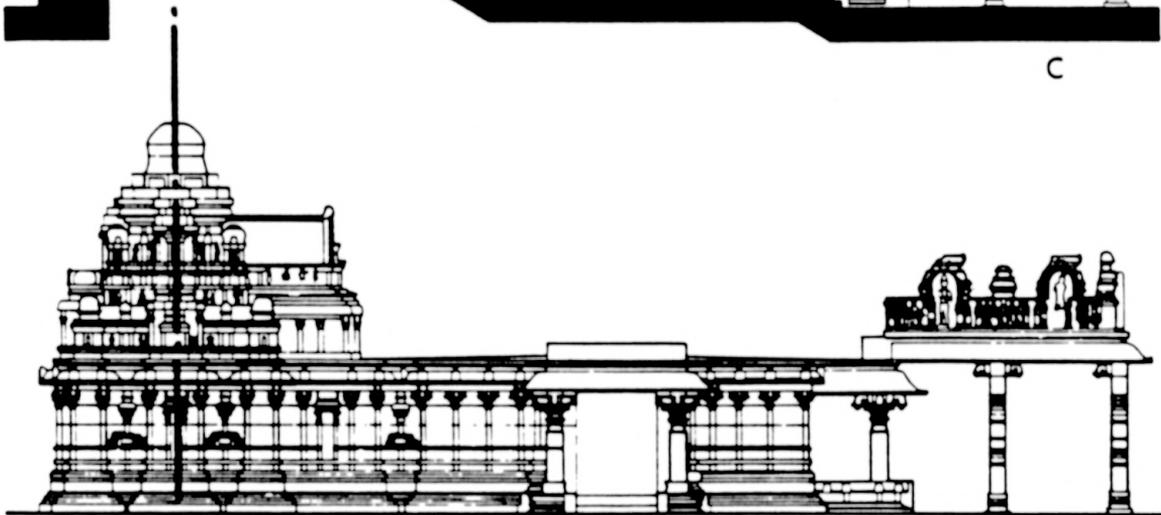
Figure 12:
A. Ramachandra temple - Elevation of the east gateway and enclosure walls
B & C. Ramachandra temple - Elevation and Section of Principal shrine

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repeated: (1) orientation, (2) separation of function, (3) area given to, and relative position of each function (Fritz 1987).

The spatial, functional, and symbolic qualities of the temple complex at Vijayanagara are organized by North - South and East - West axes (when the temples shifted in their orientation, the relation of other elements shifted accordingly). While the north-south axis is purely functional and unsymmetrical the east-west axis follow symmetrical principles such as translation and reflection. These axes could be drawn through the principal shrine of the god located to the west of the geometrical centre of the temple structure (Figure 11). Considering the definition of centrality as a point where two or more axes intersect, a vertical axis can be drawn through the principal shrine. The hierarchy of spaces along with the physical form of the temple focus towards the principal shrine (Figure 12). Thus the principle shrine is interpreted as the symbolic centre of the whole complex (Fritz 1987). Therefore the existence of cardinal axes in the temples at Vijayanagara are clear.

The Ramachandra Temple. Located at the middle of the royal enclosures and at the heart of the royal centre and city is the Ramachandra Temple. This temple is the most completely preserved sacred building in the royal centre. The complex consists of a rectangular courtyard with gateways in east and north walls and a small doorway in the south wall. Within the courtyard is the principal

shrine, a minor shrine, and several columned halls and colonnades (Figure 10 & 11). According to Michell, the establishment of the temple can be no later that the first half of the fifteenth century. This temple is important both geometrically and mythically. The plan of the temple complies with the "model geometry" described above in this chapter. The east-facing shrine, located in the middle of the courtyard, has a square sanctuary linked by a doorway to a rectangular antechamber. More significantly the shrine of the god is set on a north-south axis that divides the royal centre, and the city itself (Figure 16). The axis is clearly marked by walls bounding the alley south of the temple complex, and is extended to the north by a road. Other less obvious axial relationships are also detected. West of the Ramachandra Temple is the shrine dedicated to Virupaksha; the two complexes are aligned on an east-west axis. To the east of the Ramachandra Temple, a small shrine and a monolithic column are also aligned on an east-west axis. Both these axes are extended well beyond the royal centre. Thus are linked two of the most important monuments namely the Ramachandra Temple and the Virupaksha Temple of the royal centre.

The Ramachandra Temple complex is also related to systems of circumambulatory movement within and around the royal centre. When viewed in plan, the sculptures on the principal shrine (recounting the episodes of the *Ramayana*), and the friezes of the enclosure walls, proceed in a clockwise direction. Movement from the enclosures in the southwest to those in the

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southeast also proceeds in a clockwise motion about the temple. Another important clockwise route circumambulates enclosure IV (Figure 14). Beginning at the great platform, this path follows the alley (surrounding IV on three sides); its final destination is the small doorway in the south enclosure wall of the Ramachandra Temple. The axial system along with the circumambulatory routes emphasize the importance of the Ramachandra Temple as the nucleus of the royal centre. Thus the temple helps to define an axial scheme that divides the royal centre into two parts; it acts as a "pivot" for concentric circumambulatory routes. It will also be discussed elsewhere that the temple is the focus for the radial road system of the city.

The Royal Centre. The walled royal centre is located at the southwestern end of the urban core, and contains a number of walled enclosures. Concentric rings of walls (at least seven rings have been identified) surround the royal centre except on the north where a ridge provides protection by itself from the enemy (Figure 13). The focus of the royal centre is a group of enclosures clustered around the Ramachandra Temple complex.

East of the principal group of enclosures are a number of features that line the northeast (NE1), east (E), and southeast (SE1) roads; these include temples and shrines of different cults, and colonnades (Figure 17). The west boundary of the royal centre is indistinct. In the lower areas immediate to the west and south, the

walls have been levelled. Further north, remnants of stone walls appear on the outcrops. The north limit of the royal centre is also obscure. Here, partly levelled and buried walls appear to have linked ridges and outcrops.

The most outstanding characteristics of the enclosures of the royal centre are the irregular shapes, the tightly juxtaposed and interlocking spaces, and the defining high walls. Not all enclosures open into each other. A study of the overall organizing patterns of these enclosures permits one to identify certain groupings of enclosures. However, individual enclosures have no evidence of any type of patterns identified at other scales elsewhere. In order to designate these enclosures the author followed the Roman numbering system adapted by Fritz, Mitchell, and Rao (1984), that numbers each enclosure in a spiralling clockwise sequence (Figure 14), beginning with the enclosure (I) north and east of the Ramachandra Temple complex (thereafter II,III,IV, etc.). South of the Ramachandra Temple, a north-south alley, defined by parallel walls, separates a number of zones on the east (II-IV) from those on the west (V and IX). To the north east is another group of enclosures (XII-XV, XXVIII-XXX), bounded on the south by a road (NE). Northwest of the Ramachandra Temple is a high granite outcrop (comprising X-XII), west and north of which are two zones (XXVI-XXVII). Running around the periphery of the enclosures already noted are several other zones not always defined by walls.

The spatial, functional, and symbolic qualities. The spatial, functional, and symbolic qualities of these enclosures are organized by the north-south axis observed within Ramachandra Temple. This axis runs west of the geographic centre of the Royal centre through the Ramachandra Temple (Figure 15 & 16) similar to the spatial organization of the Temples, where the north-south axis is to the west of their geographic centre. To the South of the Ramachandra Temple, this axis is expressed by the East wall of enclosures V and IX (Figure 14). To the north it is defined in part by the north road (NI). To the east of this axis are the enclosures in which the public life of the king occurred. These may have included audience and public ceremony (in the "audience hall", on the great platform or 'mahanavami dibba' as the modern residents of Hampi call it, and the great tank IVc-1) and perhaps administration (in the colonnaded halls to the south of the hundred-columned "audience hall").

Fritz, Mitchell, and Rao (1984) suggest that zenana (enclosure XIV) located to the north-east of the Ramachandra Temple, is associated with defense, communication and war. This function is indicated by its location adjacent to a major road juncture; by towers that permit visual and oral contact with the east, north, west and perhaps south walls and gateways of the royal centre; and by its association with the plaza (XXX), which is bounded by the elephant stables, guards quarters, and a high colonnaded platform. This enclosure also contains a palace, a tank, a water pavilion and the "Lotus Mahal" possibly indicating the

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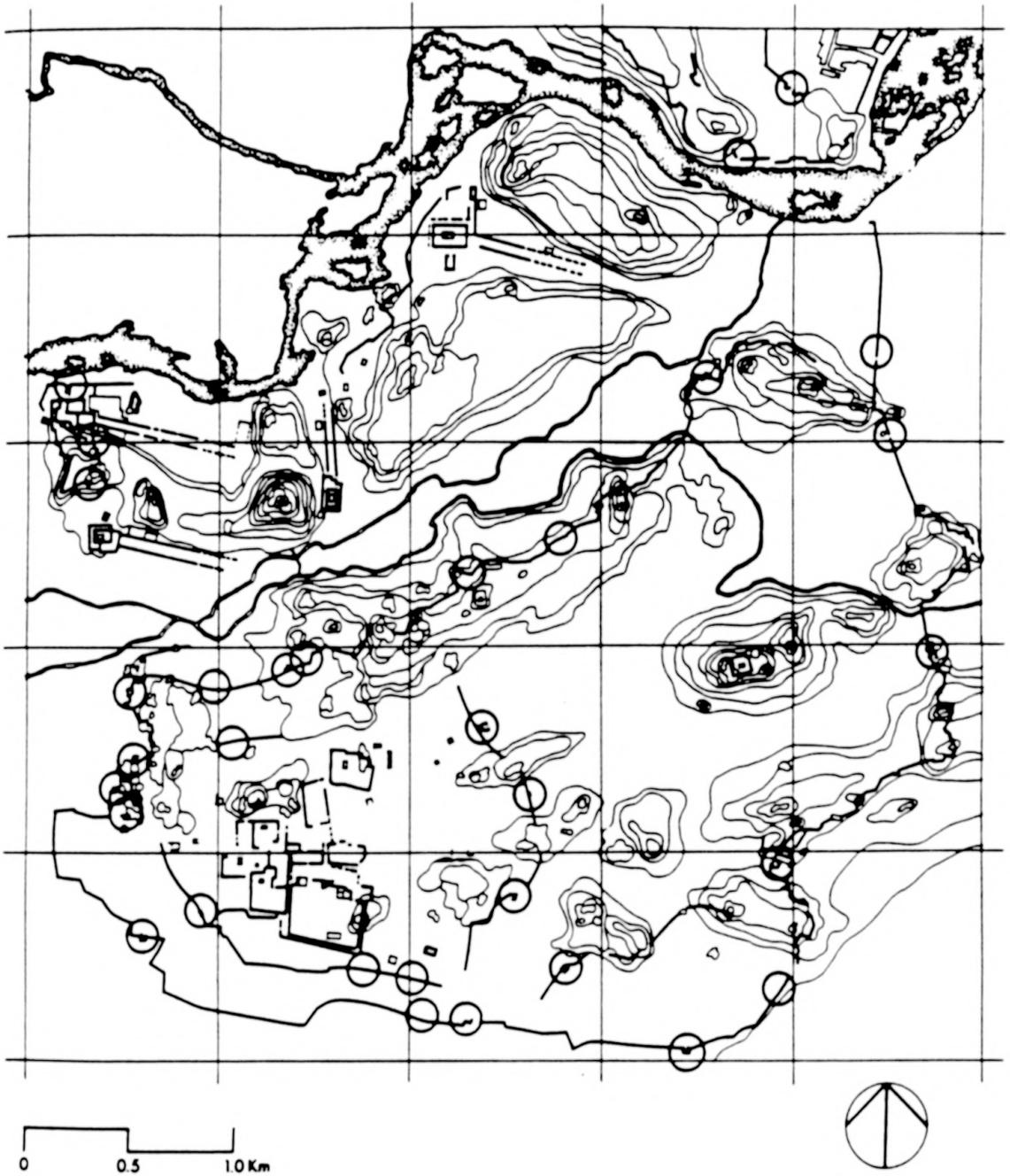
Figure 13: Rings of fortification walls and gateways (circled) around Royal centre
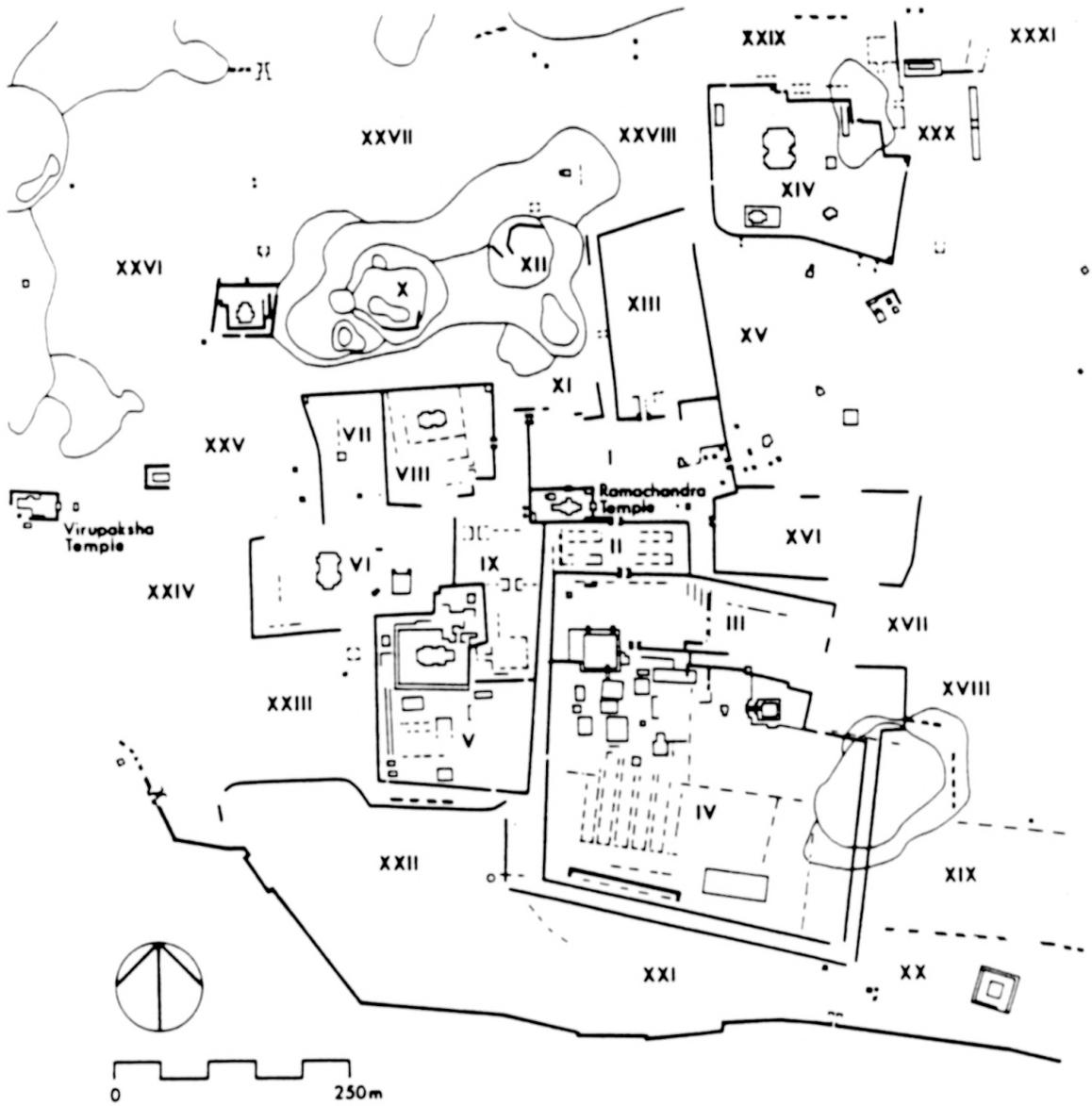
Figure 14: Royal centre - numbering of enclosures

residence of a high officer concerned with the martial life of the city. Thus the eastern area of the royal centre is termed "the zone of royal performance".

In contrast, in the area to the west of the north-south axis are found most of the palaces of the royal centre. These buildings are believed to have been involved with the more secluded activities occurring within the royal households. Thus the western area the royal centre is termed "the zone of royal residence". The layout of this zone combines great formality with great privacy. The arrangement of buildings is often spacious and symmetrical, and either dominated by a single palace or an arrangement of equivalent palaces. The formality suggests ceremonial use. The central structures are given great privacy: they are elevated above adjacent areas within the same enclosure, they are surrounded by other buildings, and they are enclosed by high walls of stone masonry. It is significant that this zone also contains some underground structures of Virupaksha Temple, perhaps the oldest shrine in the royal centre (Michell, 1985).

A close observation of the complex patterns of movement in the urban core reveals a sequence of roads which circulate around the royal centre on the east, south and west (Figure 17). Most roads converge on enclosure I adjacent to the Ramachandra Temple. The major entrance to the enclosure I are from the east and north except a closely guarded route from the west which leads through a narrow entry in the north enclosure wall. No routes lead into the city from the south of enclosure I. Most of the enclosures surrounding the plaza of enclosure I
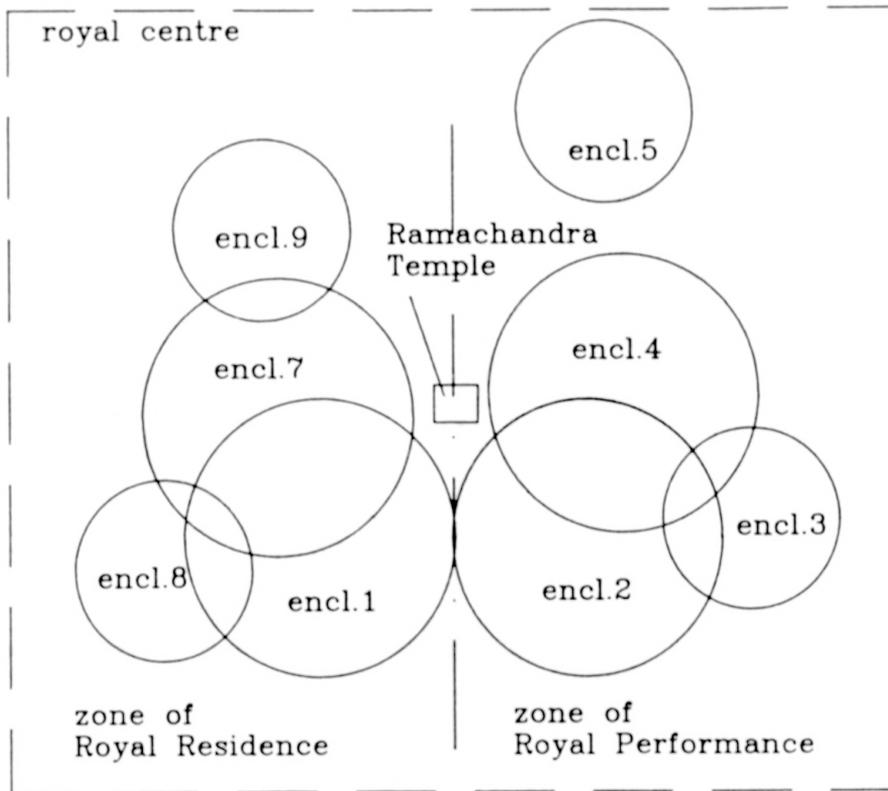
Figure 15: Conceptual pattern of the enclosures observed at the south-west end of the urban core - Royal Centre

have an entryway opening into them. Thus partly because of its major road juncture, the Ramachandra Temple adjacent to enclosure I is believed to be the central point of the city plan (Fritz 1985). The temple is also at the approximate geographical centre of the royal enclosures, although not of the royal centre.

Settlement. It has already been suggested that the Ramachandra Temple is part of an axial system that divides the royal enclosures into western and eastern zones. This axis does not stop at the royal centre. It is extended into the urban
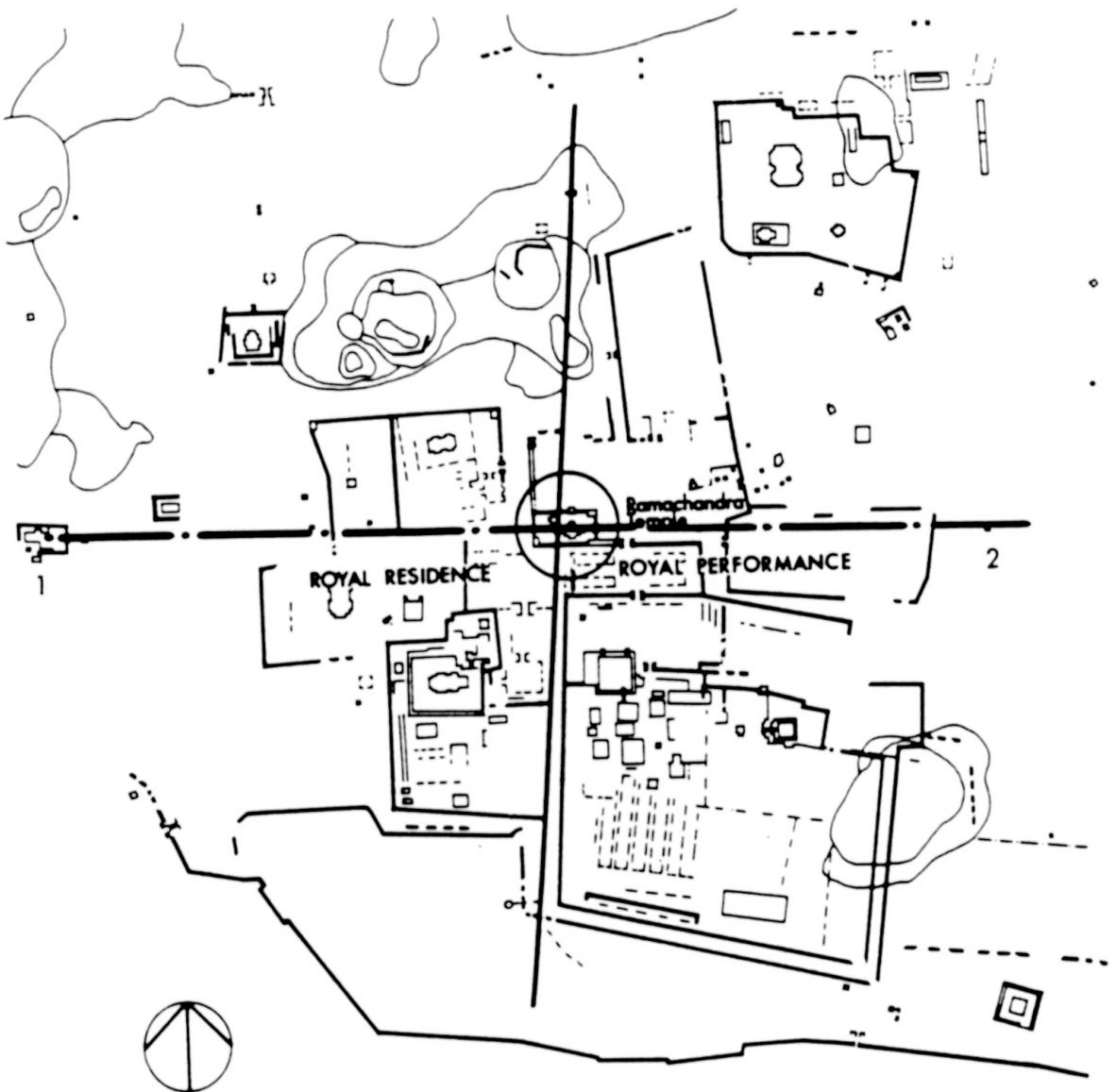
1. Vaishnava Temple

2. Monolithic Column

Figure 16: Functional divisions of the Royal Centre guided by the north-south axis. Also observed is a minor axis running east-west through Virupaksha temple, Ramachandra temple, Vaishnava temple, and a monolithic column
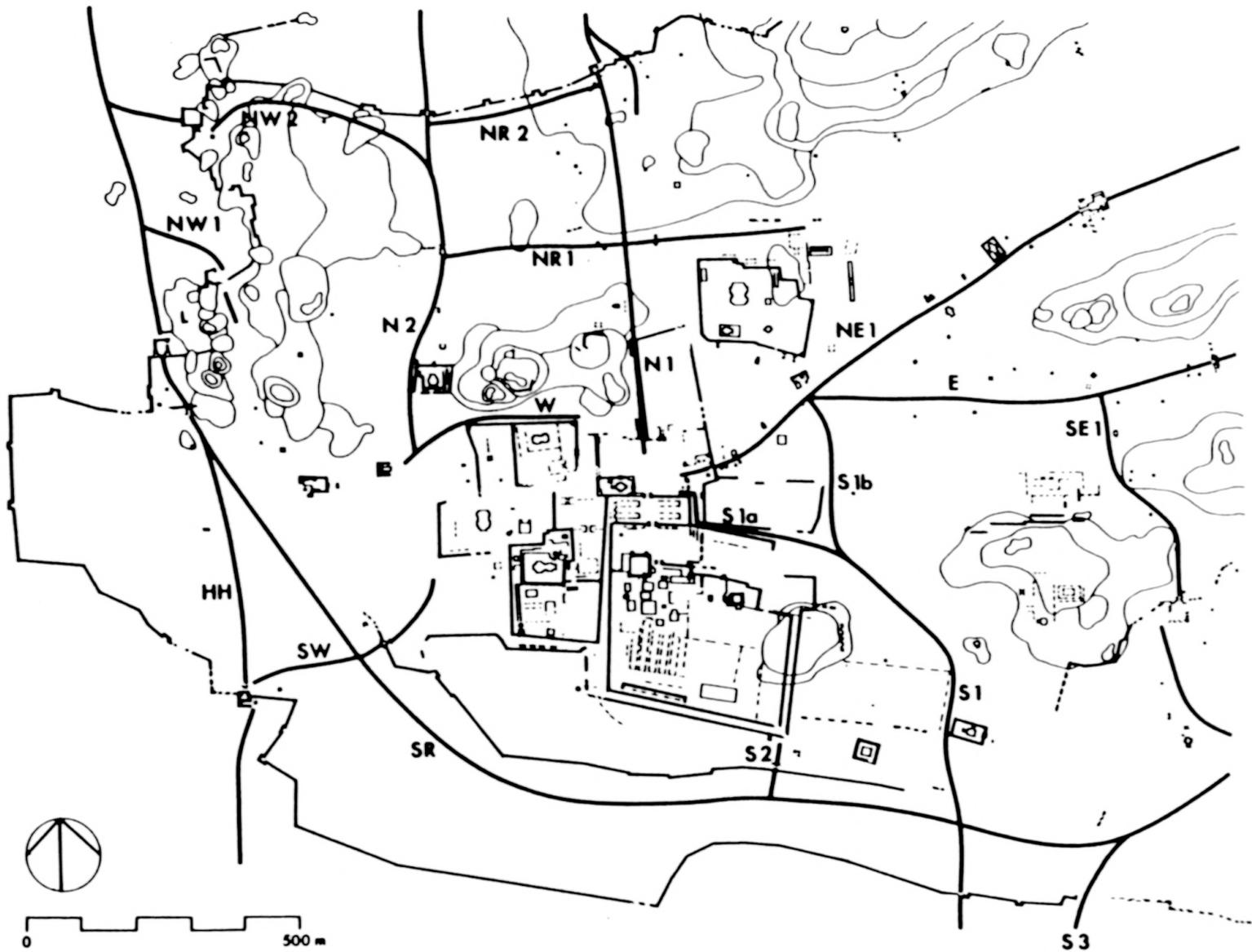
Figure 17: Complex pattern of movements in the urban core

core, the sacred centre and the region to the north by a number of features associated with *Ramayana*, the Hindu epic depicting the feats of Ramachandra (Rama), one of the incarnations of Lord Vishnu. It may also continue to the south, but no features associated with it have been identified (Fritz, 1985). The axis is extended northward from the enclosures by the north road which eventually leads to the base of Matanga hill. This prominent natural feature of the region is 1.5kms due north of Ramachandra Temple (Figure 18 & 19). It is also visually aligned with the temple in the sense that, standing in the middle of the enclosed pillared hall in front of the shrine, one could see the hill through the north doorway. As the axis extends further to the north it intersects, or passes close to the Kodandarama Temple (1.9 km), Rsyamukha hill, and Anjenadri hill (4.1 km north of the Ramachandra Temple). Like the temple, the city faces the east. As in the previous scales, the axis runs on the west of the geographic centre of the urban core, where the royal centre is located.

The Meaning of Centrality and Axiality. The layout of Vijayanagara makes homologous the city and the temple, and the ruler of the city with the god who is worshiped in his sanctuary. At a larger scale, the empire may have been homologous to the capital, as the living embodiment of the king's power (Fritz 1987). As the capital of one of the most powerful dynasties of Hindu rulers, it is believed that Vijayanagara was much more than a mere 'setting' for royal

activities. Various elements of the city are viewed as a part of a system which established and maintained imperial authority. Urban form at Vijayanagara, together with monumental architecture and art, were instrumental in asserting a particular 'argument' for royal power (Fritz 1986). Since the city was an imperial capital, its spatial organization may be considered to be directly related to the concepts of kingship as evolved in medieval Hindu society. Considerable scholarship on south Indian kingship suggests that kings were not conceived to be gods (Shulman 1985). However, kings manifested divinity, and perhaps maintained divine order in the Hindu world.

South Indian medieval kingship. An examination of recent studies on the nature and development of medieval south Indian kingship provides context for understanding the symbolic meanings of centrality and axiality at Vijayanagara. Historians of south India view kingship from two perspectives. One, explained by the works of Nilakanta Sastri (1955), has emphasized the 'feudal' character of state institutions. While in earlier periods, kings had feudal relationships with brahminical communities, during the Vijayanagara era, military governors (*nayakas*) appointed by the kings were the chief feudatories. A quite different perspective is derived from the work of Hocart (1970). Here is stressed the essentially ritual and ceremonial roles of the kings, as distinguished from those of brahmins. The historian Stein (1980:23) suggests that the Vijayanagara empire
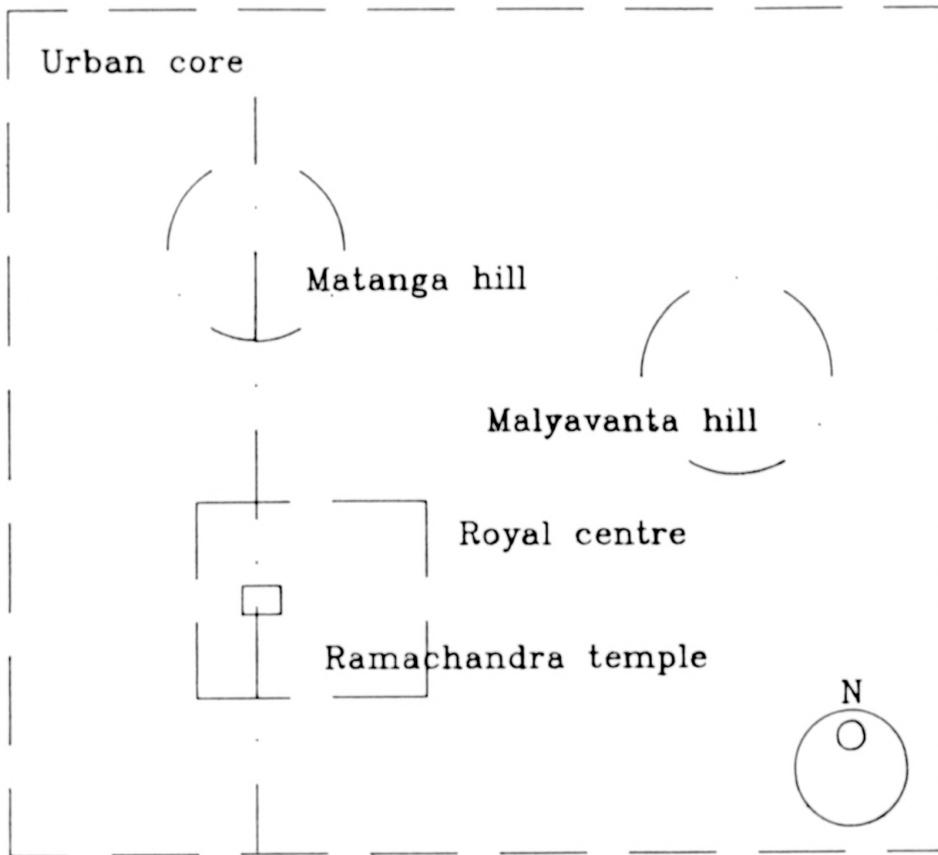
Figure 18: Observations show that the north-south axis can be extended north from the enclosures

may best be viewed as a "segmentary state", consisting of relatively autonomous polities "structurally as well as morally coherent units in themselves". Burton Stein (1980) the most prominent exponent of this view, argues that there is little evidence for any administrative apparatus in medieval south India. While kings had less direct control over the affairs of the empire, they were able to unify disparate elements through their sacral and incorporative roles.

The significance of ritual in Indian kingship is generally acknowledged; this is conveyed in both literary and epigraphical sources. But the nature of this ritual

kingship seem to have different interpretations. One interpretation derived from Hocart (1970[1936]) suggests that "the function of the brahmin...was to conduct sacrifices in the name of the ritually disqualified, blood-shedding, meat-eating king". Another view also traced to Hocart, and taken up by Inden (1978), Stein (1980), and others suggests that the king himself played a significant ritual role in the state. Inden (1978), analyzing an early north Indian Sanskrit text, concludes that kingship took two forms that were repeated at regular intervals: in his transcendent form, "the divine Hindu king acted primarily as a ceremonialist exercising ritual sovereignty, while in his immanent form, the ruler functioned as an administrator and warrior exercising his political sovereignty" (Richards 1978). In fact, there is considerable textual evidence that for many centuries proceeding Vijayanagara, south Indian kings were associated with Ramachandra (Shulman 1985).

It was the institution of kingship that was considered divine rather than the king himself. Inden (1978) suggests that it was also tied to material prosperity, moral well-being, and cosmic regulation. In south India these were achieved by conquest and plunder, redistribution of booty and surplus, arbitration of disputes, and celebration of particular rites. Kings also sponsored the construction of extensive hydraulic works-tanks, dams, canals, etc., which permitted extensive agricultural development and the population of new regions. (Fritz 1988).

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The prosperity of the king and his royal wealth were usually displayed either through his gifts of honors and privileges to members of the king's household and court or the entertainment of subordinates. Construction of civic and religious monuments also conveyed the king's power (B. Stein, personal communication, 1982). The king was also a subsidizer, participant, and celebrant of rites that reaffirmed and reestablished cosmic order. Most important of these rites during the Vijayanagara period was the annual *mahanavami* festival that took place in the capital, in which the king publicly enacted his royal roles. This event occurred between the summer rains and winter drought. Inden (1978:58-60) discusses the significance of this moment in the year when, following the night of the monsoon, "...the gods slept and the king, along with the entire state apparatus, suspended nominal administrative and warrior functions" (Inden 1978). At Vijayanagara, the *mahanavami* rites reconstituted the "centralized and hierarchic" phase of the state during which "territorial chiefs, subordinate kings, revenue officials, and companies assemble[d] at the royal city" (Stein 1980,1983). On this occasion the king appeared as ritual celebrant, warrior, giver and receiver of honors, and host of lavish entertainment. Another important reason for these activities was to enact the partnership of ruler and deity.

Fritz and Michell (1984b) proposed three phases in the process by which the Vijayanagara kings attempted to define their relation with the sacred. First as purely local rulers, the Vijayanagara rulers obtained the support of the local sacred

power (*shakti*) of *Pampa*, an indigenous goddess linked with the sacred centre on the south bank of the Tungabhadra River. The first seat of royal power may have been established nearby on Hemakuta hill (Filliozat 1977). The second stage in this process was the incorporation of the *shakti* into an orthodox male deity, *Virupaksha*. In order to be supported by the power of *Virupaksha*, the kings erected a temple dedicated to this god in a newly laid out royal zone (the royal centre). The third stage of this process involved the reorganization of Vijayanagara into a capital of supra-regional significance. The city became a manifestation of a cosmic scheme, with Ramachandra, the divine hero-king, at its core. The cult of *Virupaksha* and other deities were incorporated into the king's realm in an ever expanding process. Over two centuries, this empowered the Vijayanagara rulers as they continually enlarged their capital and empire (Fritz, Michell 1984b).

Vijayanagara and Ramayana. Characteristic of the third stage is the emphasis on the hero of the Ramayana. The God Rama has long been a paradigm for south Indian rulers; since he descended to earth to right all wrongs, this divinity embodied all the virtues of the ideal king. He ruled from *Ayodhya*, the urban symbol of the ideal moral world, housing the perfectly organized society, protected from all danger and pollution (Ramanujan 1970: 232-5). In fact, the

Vijayanagara kings never hesitated to compare themselves with Rama, and to equate their capital with that of the divine hero-king, Ayodhya.

Local legend states that the site of the city was the home of monkeys who helped Rama to rescue his abducted wife, Sita, from Ravana, the king of demons. Here Rama first encountered the monkeys, restored their rightful king to his throne and waited while the hero, Hanuman, sought and eventually found Sita in the demon's capital city in Sri Lanka. Various places at Vijayanagara are associated with these events. The birthplace of Hanuman is marked by a temple. When the monkey was in exile he lived under the protection of a sage who lived on Matanga hill; and when he was restored to his throne, he was crowned by Rama at a place on the Tungabhadra River commemorated by a temple. The hill and two temples are all on the northern extension of the axis defined by the Ramachandra Temple. While Hanuman sought Sita, Rama waited on a hill to the east of the temple. And when she was found, Rama proceeded to the south to Lanka. These epic events pivot around the seat of the God at Ramachandra Temple in a semi circle (Figure 19).

At the scales of both the urban core and royal centre, the major principles organizing the space of the temple, namely centrality and axiality, are observed. The royal centre, the seat of the king, is located to the west of the geographic centre of the urban core which is the identified symbolic centre. The king probably was conceived as facing east. His subordinates especially members of
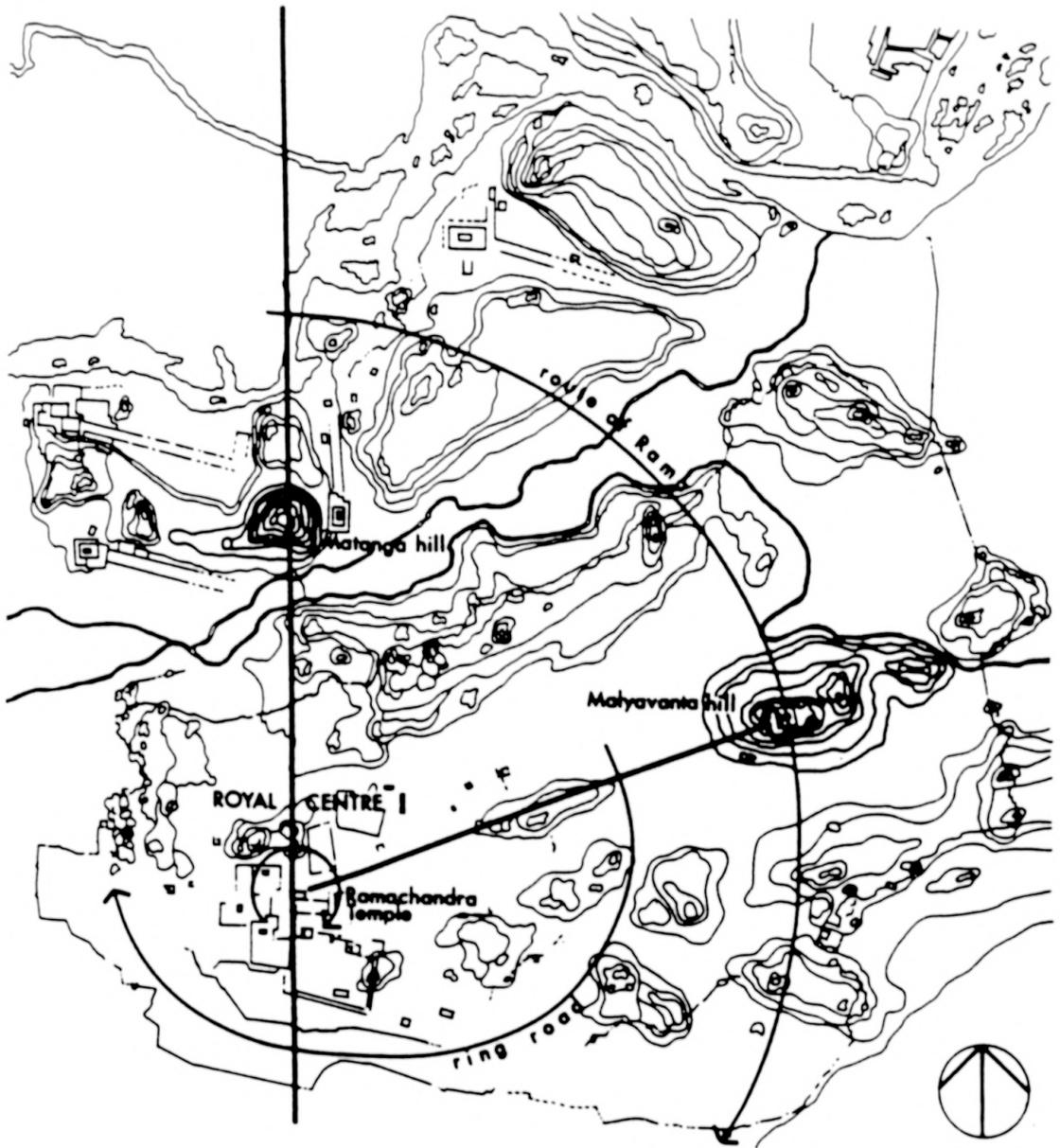
Figure 19: Routes of circumambulatory movements around the Royal Centre - Axial alignments with the Ramachandra temple

the army, craftsmen and tradesmen were located in the eastern two-thirds of the urban core; they approached the king from the east (and to a lesser degree, from the southeast and the north) along the major roads of the city. It may be that, at this scale, the entire royal centre was conceived to be the king's household. Within the royal centre, the well-protected household of the king was located in a smaller area to the west of the north-south axis while the larger area given to his public activities was located to the east. Again the king was approached from the east (also from north and southeast).

The spatial organization of the royal centre at Vijayanagara manifests the relation of terrestrial and celestial authority at deeper structural levels (Fritz 1988). The zones of royal residence and royal performance are separated in part by a north-south wall. The shrine containing the terrestrial manifestation of the hero-king-god Ramachandra lies on the northern extension of an axis defined by this wall. Thus the seat of this divinity is located at the symbolic centre which is identified by a line of contrast between the "inner" world of women and the "outer" world of men; between private and public behavior, rest and activity, taking in and giving out, as well as between east and west, and, perhaps, left and right (Fritz 1987).

As noted earlier, all routes of movement in the capital are directed towards or circulate around the royal centre (Fritz 1983); movement within the royal centre circulate through the open space in which the Ramachandra Temple is located.

Thus, movement inward is directed to the seat of the king's activities (the royal centre), and, within this, to the temple of the god Ramachandra. As they lead through the walls of the royal centre and approach the temple, the principal roads of the city (from the northeast and east) become sacred ways, lined with the shrines of a number of sects. At the same time, the Ramachandra Temple and the royal centre are the origin of roads that lead outward into the rest of the city, and into the empire beyond.

Like the king, the attention of the god Ramachandra is directed outward into the surrounding landscape. This temple is visually aligned with two significant natural features, Matanga Hill (on axis to the north), and Malyavanta Hill (slightly to the north of east). Both hills are associated with mythical events of the *Ramayana* epic, especially those episodes in which Rama enlisted the aid of the local monkey tribes to regain his abducted wife.

Movement within the capital also circumambulates the royal centre in a clockwise direction (clockwise movement in India constitutes an act of *pradakshina* or worship) paying homage to the king and god, and linking them. Thus, narrative reliefs depicting the events of the *Ramayana* circulate around the walls of the Ramachandara Temple. Processions on the outer walls of the temple compound also move in this direction. Circumambulatory movement through the enclosure containing the Ramachandra Temple leads from the zone of residence to the zone of performance. On a larger scale, a sequence of ring roads passes

around the royal centre, linking residential areas of the urban core (east) to temples in the western half of the sacred centre. Even Ramachandra pivots around the seat of the king. According to local legend (Longhurts 1917:7,9), the god, coming from the north, arrived at a site north of Matanga Hill and then proceeded to Malyavanta Hill before travelling south to rescue his wife (Figure 19). A passageway also connects king and god: a sequence of small courts and alleys links the *mahanavami* platform to the south door of the Ramachandra Temple compound. Movement from platform to temple would circumambulate and honor the site of the king's public life, thus conveying its homology with the shrine of the deity.

"… the urban elements assert the congruence of the terrestrial realm of the king with the manifest mythical and celestial realm of the god" (Fritz 1986,88). This congruence is suggested in other media as well: inscriptions liken Vijayanagara to Rama's capital, Ayodhya (Saletore 1934:221; also Ramanujan 1970:232-235), and contemporary literary texts enjoin kings to emulate the heroic activities of the Rama (Sridhara Babu 1975, also Shulman 1985). The site of the king's activities is also that of Ramachandra - the royal power that radiates outward is empowered by the divine authority of the deity. Thus, the plan of the royal centre, together with the roads of the city, its walls and gates, its tanks and aqueducts, its numerous and monumental temples, and its rituals all embody the cosmic order.

Vijayanagara as a cosmic city. Indian theoretical texts on architecture and city plans, known as *shastras,* show evidences in Indian thought for the concept of the "cosmic city". These texts generally specify a cardinal orientation for roads which bound and cut across the settlement. There is an implication that the cardinal directions are closely linked to principles of cosmic order, e.g. the movement of sun, moon, planets and stars. The centre of the city is usually assigned to *Brahma*, the creator god, thus defining centrality. Both hierarchy and orientation are suggested by those *sastras* that locate the quarters of particular gods in different directions from the centre and assign the greater gods closer to the centre. Sastric models also define that spatial framework for human society and place more highly ranked groups (in the sense of ritual purity, not temporal control) closer to the centre and/or in more auspicious directions from the centre. The place of the king is also defined usually near to but not at the centre. Thus a description of types and features of cities from *manasara* quotes:

" 37. The types and features of all cities and others (i.e. the forts) will now be described.
 39-43. The eight kinds of fortified cities are (named) Rajadhaniya (royal)-Nagara, Kevala (ordinary, i.e. without the royal residence)-Nagara, Pura, Nagarai, Kheta, Kharvata, Kubjaka, and Pattana; (and the eight kinds) of forts are (called) Sibira, Vahini-mukha, Sthaniya, Dronaka, Samviddha, Kolaka, Nigama and Skandhavara. All those (eight) beginning with the Nagara may also be called forts, for all practical purposes.

44-47. A city with the king (i.e., royal palace) in the centre and inhabited by numerous wealthy (lit. meritorious) people should preferably be laid out within the kingdom on the banks of a river; it is always given by the learned the name of Rajadhani (capital or metropolis) if there be (built) a temple of (god) Vishnu at the entrance or in the centre of it." (Acharya, Prasanna Kumar, 1934,80: p 95; Figure 20 & 21).

Thus *sastras* define plans of town and royal city which conform to transcendental principles or order. These principles are sometimes expressed in sacred diagrams. Some authorities suggest that Indian cities were actually laid out according to such diagrams (often citing the city of Jaipur as the example). However, these authors acknowledge that local conditions may require modification in the arrangement of urban elements (Dutt 1925: 132). What *sastras* do not seem to suggest is that terrestrial cities laid out according to these diagrams conform to the plan of a particular celestial city. One might assume that a celestial city was laid out thus, but no such cities are cited as paradigms (Fritz 1985b).

In addition to the *sastras*, the epics and other literary sources might describe terrestrial and celestial cities, the plans of which embody cosmic order. However, particular terrestrial cities like Amaravathi, or paradigmatic cities like Ayodhya are said to be analogous. According to Fritz, there are no cases where the physical layouts of earthly cities are compared with those of epic capitals.

If Vijayanagara was laid out according to a sacred diagram, the cosmic character of the city would be evident. Though the plan of the city does not conform to the full range prescription of a particular plan, some properties were

Figure 20: The Rajadhaniya layout of a fortified
city as illustrated by the sastric model (Acharya,
Prasanna Kumar, 1934, 80: p 95)

SCALE — 1/8 INCH = 3 RODS = 16'-3"

NOTE:-

THE OUTER WALL CAN BE MADE CIRCULAR
HEXAGONAL OR OCTAGONAL
'T' STANDS FOR TEMPLE

N

R A M P A R T

ARCHITECT & ARTISANS

FURNITURE

NOBLES

ROYAL PALACE

PHYSICIAN

PUBLIC HALL

TEMPLE SQUARE

PRIESTS

UNALLOTED

TAILOR ETC.

LOW-CASTE PEOPLE

LOW-CASTE PEOPLE

WEAVERS

PUBLIC BUILDINGS

DITCH LINE
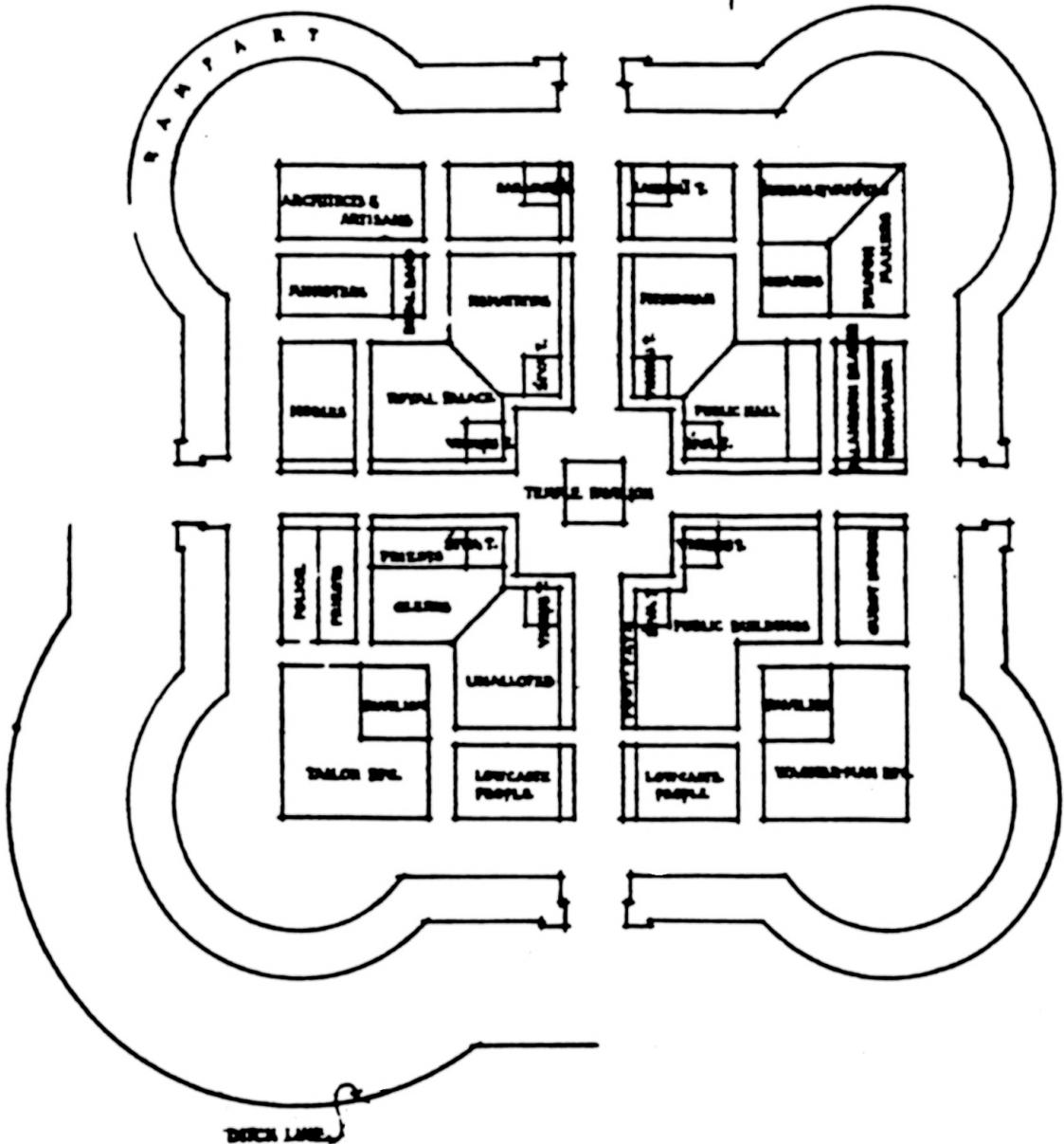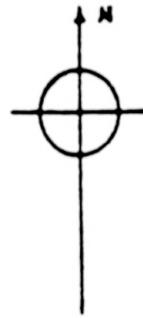
Figure 21: The Padmaka layout of a village with
the outer fortification wall made circular,
hexagonal or octagonal 51

identified in certain *sastras*. Thus the plan of the city cannot be directly correlated to a particular sacred diagram. The alignment of temples along the river Tungabhadra and elsewhere are an indication of some system of cardinal orientation. Within the royal centre, some walls, roads, palaces, and other major structures are also aligned to the cardinal directions, yet many are not.

It is particularly significant that the roads at Vijayanagara, to the proper orientation of which *sastras* give particular importance, are mostly radial in plan. Roads also circulate around certain features, or join several points which are not cardinally aligned (Figure 17). Radial road systems are described in the *sastras*, for example, the *padmaka* in the *manasara* and the *nandyavartin* in the *kamikagama*. In these cases roads diverge from the geographic centre of the city in all directions. This is not the case in Vijayanagara. Some kind of rectilinear grid, which typifies many sastric models, occur in the northwestern quadrant of the urban core. Here two north-south roads (N1, N2) appear to be intersected by two or three short east-west routes (W1,NR1, NR2; Figure 17). However, this system is not found elsewhere in the city.

Most of the smaller temples and shrines that occur along these roads are aligned perpendicularly to the road axis, rather than to the cardinal directions, the typical temple layout describes. This is clearly evident along the northeast road (NE). Thus, in this example, road orientation controls temple alignment, and in its turn, adaptation to natural topography controls road direction. Illustrating

specifically, the *pansupari bazar* at Vijayanagara which is to that part of northeast road opposite to the east of the elephant stables, Dutt maintains that the orientation of this 'diagonal street' does not violate sastric planning principles. Rather, "...economic and aesthetic consideration were not sacrificed to the fetish of symmetry or rectilinearity in a fixed direction" (Dutt 1925: 132). Therefore one could argue that the numerous deviations from "symmetry or rectilinearity" in the plan of the capital are only responses to local conditions.

The city is not based on a grid, nor is the temple at its geographic centre. But those properties that the plan of Vijayanagara does share with the sastras, which have been described elsewhere in this chapter, namely, centrality, orientation (axiality), and the throne of the king close to the centre - are precisely those that according to Meyer's ideal type (Meyer's ideal type of cosmic city is discussed in chapter 5) are indicative of a sacred city. What is not yet clear is the particular relation of the city and, most importantly, of the king, to the divine (Fritz 1985b).

Thus one can conclude that Vijayanagara was a "cosmic city", which embodied a sacred geometry. In accordance with the ideal type, the capital has orientation, and a centre as the throne of a sacred king. It is oriented by cardinal axes which not only accord with the lineaments of the astronomical world, but which also express fundamental categories of the organization of human life. As well, the north-south axis is imbued with particular epic sanctity, for it is defined

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by the activities and being of Rama. The centre of the city is the Ramachandra Temple. The god is the pivot of movement in the city. He is seated on the axis which defines and relates these differences. In this sense god is outside of and prior to this terrestrial world. At the same time, his presence in the world creates the categories according to which it is organized. In this way, Rama partakes of the qualities of Brahma, the creator god at the centre of the sastric urban plan. Rama generates form and relationship.

The world that Rama creates, and the order that surrounds him, is the world of the king. It is in this sense that the king is sacred. The king therefore is the generative force of god. It could be simulated that Rama creates the ideal world through his heroic and regal activities, while the king maintains *dharma* through appropriate force *(danda)*. The Vijayanagara rulers, empowered by the gods, created a great city and a rich powerful empire that resisted the forces of dissolution for more than two centuries.

Though the capital does not conform to a particular sastric model, it does manifest the epic qualities of the capital of Rama. This relation is made explicit in inscriptions and literary texts which compare the two capitals: "In the same city (Vijayanagara) did (king) Harihara dwell, as in former times Rama dwelt in the city of Ayodhya" (inscription of 1379 quoted in Saletore 1934, Volume 1, p.221). The cult of *Hanuman*, whose image is probably the most common in Vijayanagara,

may also suggest this relation. For the monkey is usually shown in a posture of heroic defence of the city or in worshipful contemplation of its ruler.

Another important aspect that is essential to this argument is whether Vijayanagara was organized according to replicable principles of spatial order like a "cosmic city". Vijayanagara seem to share with cities of local sacrality the presence of a religious figure (Rama) whose activities at the site were not repeated elsewhere. The city plan does not conform to a universal sastric geometry, instead it is suggested that the model for the city is not an abstract city, but the temple. According to Fritz it may not be too much to suggest that the sacred role of the king existed at an even larger spatial scale. The city itself may have been conceived as the shrine of the being who gave form and meaning to the world that surrounded him - the empire of Vijayanagara.

CHAPTER FOUR: IDENTIFICATION OF CENTRALITY AND AXIALITY IN THREE SPATIAL SCALES AT OSTIA

This chapter identifies and analyzes centrality and axiality in three different scales at Ostia, namely, temples, the Forum, and the settlement. The smallest scale to be discussed is the temple, especially the Capitolium, which is located at the north end of the Forum. The Forum, the centre of public life at Ostia, is considered on a public space scale. Finally, the city, which is still on a larger scale includes the settlement of Ostia in totality. Though the basic principles of centrality and axiality are similar at all these scales, the reasons for their respective existence are not.

The most common element organizing symbolic characteristics of centrality and axiality is "symmetry" pertaining to geometry. The symmetric principles involved are translation, reflection and rotation. However, at the settlement scale these principles do not exist. At Ostia, depending on the scale, more figures translate and reflect than those which rotate.

The analysis of the meanings of centrality and axiality will depend on 1. the principles of symmetry, 2. the mythological associations, 3. the organization of ritual and ceremonial movements, and 4. (occasionally) the structure of urban plan.

Temples at Ostia. Temples are the most obvious structures identified at Ostia that seem to respond directly to these issues. Most temples follow symmetry

along an axis. "The design of a temple depends on symmetry,...due to proportion, ...without symmetry and proportion there can be no principles in the design of any temple ...as in the case of a well shaped man." (Vitruvius Chap.I.1., translated by Herbert Langford Warren, 1914). Although there were influences of foreign cults such as *Cybele* and other Oriental cults, the traditional cult nevertheless dominated and so did the Roman temples. The temples identified are therefore typically Roman rather than specifically Ostian.

Both Etruscan and Greek architecture played a part in shaping the typical Roman temple. The layout of the Roman temples were highly influenced by the Etruscan temples, with their high *podia*, deep columnar front porches and strongly emphatic frontality. Also the temple's superstructure followed the Etruscan tradition, until the second century BC, when the Greek orders began to be employed in more or less pure form.

A typical Roman temple was raised on a high *podium* (a raised platform) that dominated the space immediately in front of it. The facade was one of the most emphatic design elements, which was usually approached by a lofty staircase. This staircase led to a deep columnar porch, followed by the *cella*, the central chamber of the temple seated on the podium, where the image of the deity was placed (Figure 22).
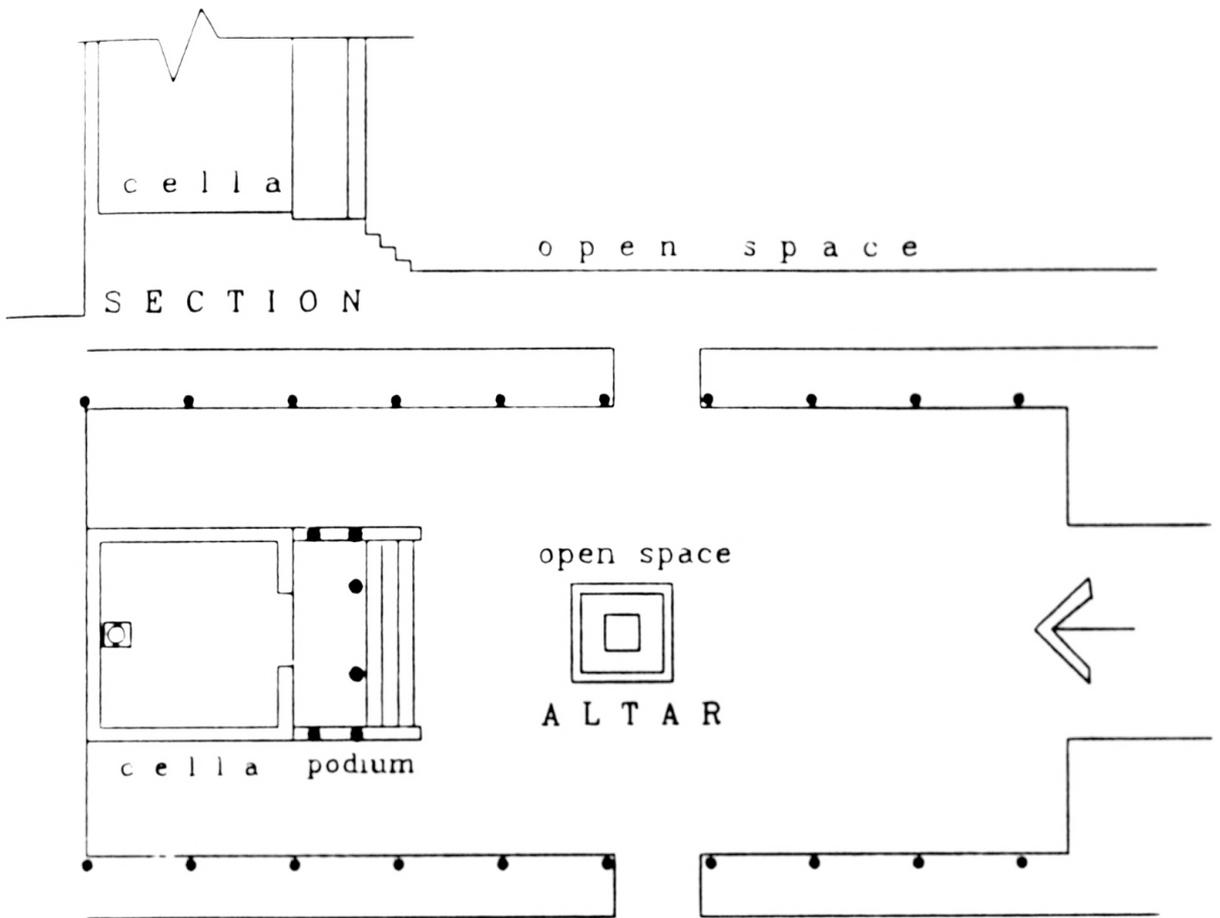
Figure 22: Typical layout of a Roman temple

According to Vitruvius, there were at least six types of temples; the temple in *antis, prostyle, amphiprostyle, peripteral, pseudodipteral, and dipteral* (Vitruvius Chap.II, Herbert Langford Warren, 1914). A temple in *antis* has *antae*, the pilasters forming the ends of the lateral walls of the temple cella. Positioned in the middle of the antae are two columns over all of which stood the pediment; organized in a symmetrical proportion (Figure 23). A *prostyle* temple is in all respect like the temple in antis, except that it has a row of columns in front of the cella without antae, and that it has *architraves* (the horizontal element,

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of stone or timber, spanning the interval between two columns or piers) not only in front, as in the case of the temple in *antis*, but also on the sides (Figure 23). An *amphiprostyle* temple is a prostyle temple with the same arrangement of columns and pediments in the front repeated at its rear. A *peripteral* temple usually has two rows of columns on all the front and the rear sides, and one row on its sides, but the number of columns varied with different temples. The width between any two columns and that between the exterior face of the cella wall and the column are designed to form a walk round the cella of the temple (Figure 23). The *dipteral* temple have two rows of columns all around the cella of the temple (Figure 23). A *pseudodipteral* temple is a false dipteral where one row of columns disregarded (Figure 23). Among other varieties the circular temples were very popular, and had a long history both in Greece and Rome. These were basically either *monopteral* forms with a columnar building of circular plan, roofed, but contained no cella, or *peripteral* where a circular cella had a continuous outer ring of columns. In a Roman context, the colonnade tended to be strictly symmetrical, emphasizing the axiality of the temple buildings. In spite of the variations in temple design developed by the Romans during different periods, the basic characteristics of the temple nevertheless remained the same.

The study of the temples will be incomplete without an understanding of the various cults and dedications identified at Ostia. The study of Ostian cults is tantalizing, for more than half the temples that have been discovered are still
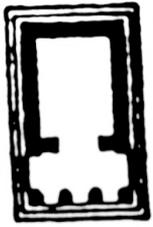
PROSTYLE.
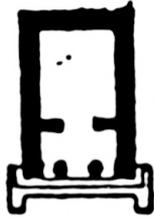
TEMPLE IN ANTIS

AMPHIPROSTYLE
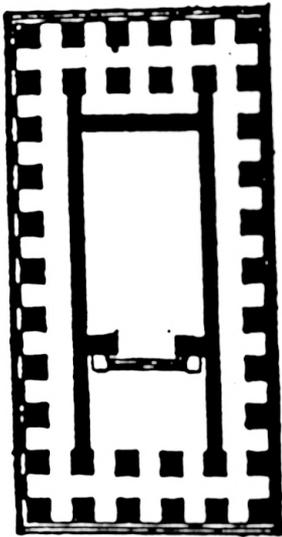
TEMPLE IN MUSE
PERIPTERAL
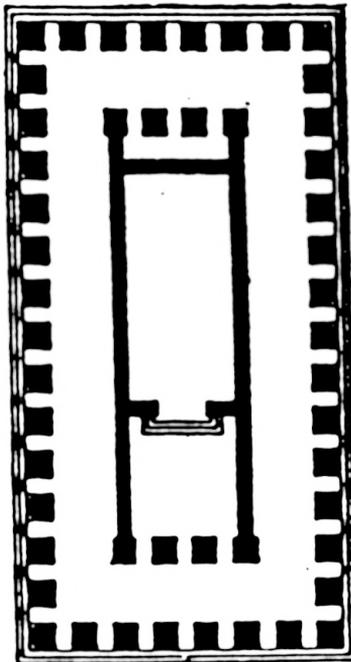
PSEVDODIPTERAL
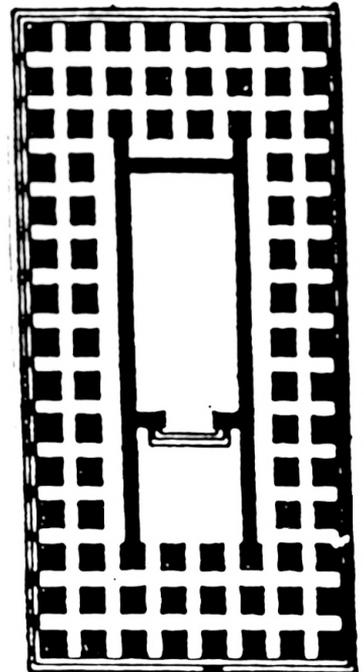
DIPTERAL

Figure 23: The classification of temples according to the arrangements of the colonnades described by Vitruvius (Vitruvius chap. II, Langford Warren, Herbert, 1914)
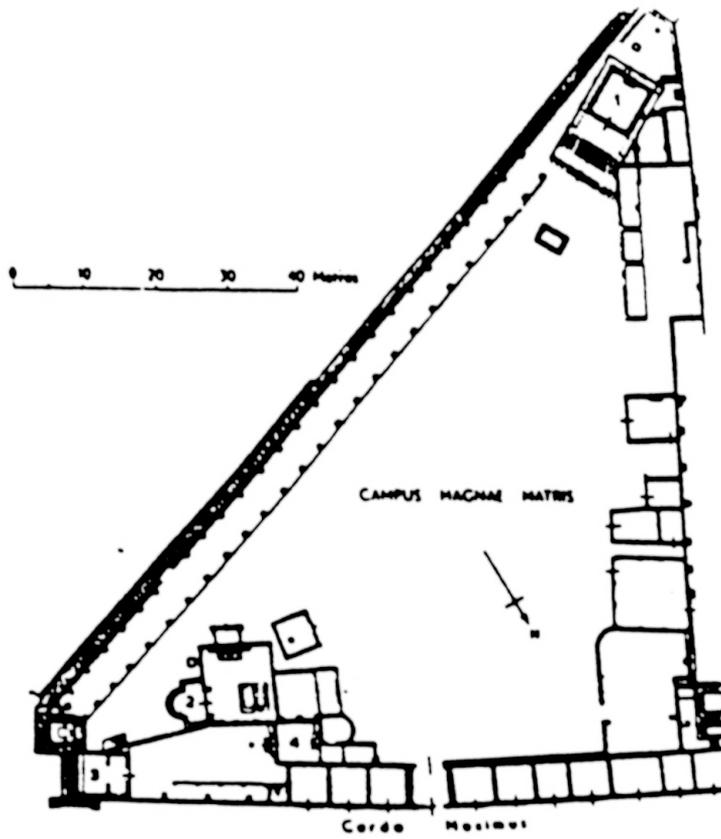
Figure 24:
A. Cybele - 1. Temple of Cybele. 2. Shrine of Attis.
3. Temple of Bellona. 4. Guild House of Hastiferi
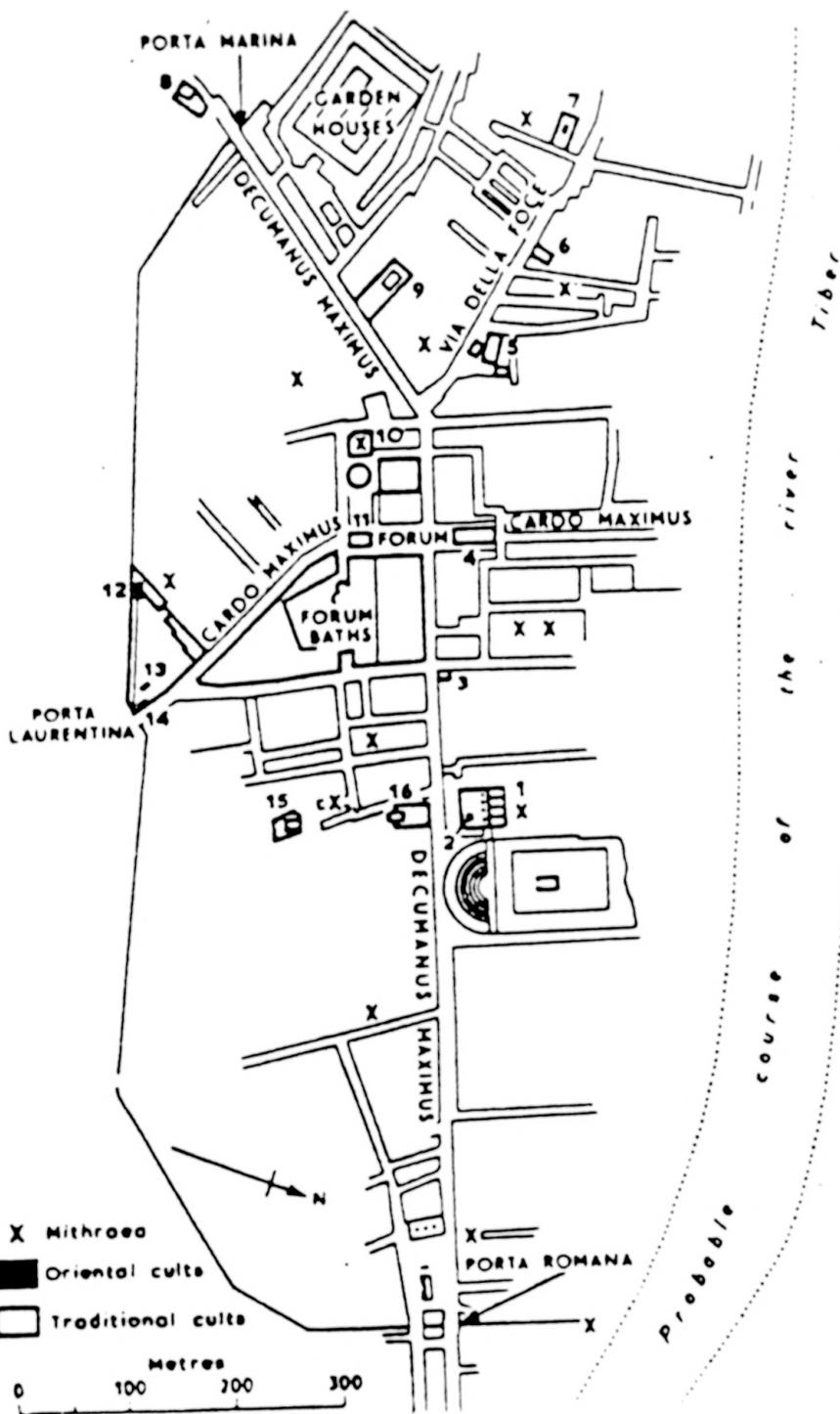
Figure 24:
B. Ostian cults - 1. Venus, Fortuna, Ceres,
2. Jupiter Optimus Maximus. **3. ? 4.** Capitolium.
5. Hercules. **6.** Temple associated with the measurers.
7. Serapis. **8.** Bona Dea (Julio-Claudian). **9.** Guild
temple of the ship-builders. **10.** Guild temple
converted to Mithraeum. **11.** Rome and Augustus. **12.** Cybele.
13. Attis. **14.** Bellona. **15.** Bona Dea (Augustan).
16. Guild temple. Temples not numbered are not yet
identified (Meiggs, 1973)

nameless, and many of those known from inscriptions have yet to be identified (Meiggs 1973). The cults that Meiggs assigned to the republican period alone, are those of *Vulcan, Castor and Pollux, Jupiter Optimus Maximus, Hercules*, and probably *Liber Pater*, and Meiggs also proposed that the number of unidentified temples indicates that there were several others as well (Meiggs 1973). Among these the most distinctive feature in the history of Ostian religion is the pre-eminence of the cult of *Vulcan*. This cult had even been associated with the origin of Ostia. Among other cults of republican Ostia the worship of *Castor* and *Pollux* had special importance, but the temple of *Castor* and *Pollux* at Ostia has not yet been found (Meiggs 1973). Whereas the number of Republican cults kept increasing, imperial cults were gradually pervading as early as 12 B.C. For the citizen population, the cult of Rome and Augustus was most important and a temple almost surpassing all other Ostian temples of the day was built at the south end of the Forum. Oriental cults moved into Ostia during its period of prosperity that began under the Flavians. Of these oriental cults the worship of *Cybele*, the Great Mother, held a unique position in the Roman state (Meiggs 1973). *Cybele* was a goddess of nature and fertility: with her cult was associated that of *Attis*, the shepherd of the hills. There is possibly more evidence to prove the domination of *Cybele* at Ostia than any other oriental cults. The area reserved by the temple of *Cybele* and its associates lies on the south side of the town by the gates that leads to Laurentine territory (Figure 24). It forms a large triangle, approximately

4,500 sq.m in extent, bounded on the east by the *Cardo Maximus*, on the south by the Sullan walls, on the north by a set of public baths and other buildings. The actual temple of *Cybele* however, is located at the western apex of the triangle and faces east. The list of the Oriental cults is not complete without the mention of *'Mithraea'* popular towards the middle of the third century. The cult's development remains largely conjectural and is known to have very few followers, but it left a great deal of prominence as an Oriental cult. The Ostian *Mithraic* sculptures and inscriptions in the mosaic pavement are significant. The *Mithraea* are not concentrated in any one district, instead they are evenly distributed all over the town (Figure 24). Though the Oriental cults appealed to the emotions, the surviving evidence generally acknowledge the endurance of the traditional cults.

In considering the position in the town's life of traditional religion it may also be significant that there is very little surviving evidence that during the second century the ruling classes were closely associated with the oriental cults (Meiggs 1973 p 384).

In fact, Meiggs made a remark that none of the Oriental buildings were architecturally distinctive, except the large triangular enclosure that housed the temples and orgiastic rites of *Cybele, Attis* and *Bellona*. According to Ward-Perkins (1981) only three of the city's temples of the Imperial Age were conspicuous public monuments: the Tiberian temple of Rome and Augustus, the centre of the imperial cult; facing it down the enlarged forum, the Hadrianic Capitolium, with an unusually tall podium presumably dictated by a wish to

dominate the multi-storeyed houses of the neighborhood; and a large circular temple, of unknown dedication and late Severan date, with a decastyle porch (Ward-Perkins 1981). Thus the basic characteristics of the temples dictated by their associations with various traditional cults at Ostia, mostly remained unaffected by the foreign cults. Presumably one of the reason for the survival of the traditional cult goes back to its agricultural origin, deeply attuned to the rhythm of the agricultural year and to the farmer's reverence for the mysterious forces that manifest themselves in every aspect of rural life. As the city of Ostia was forming in the sixth and fifth centuries B.C., it developed a civic religion that was modelled on this simple agricultural and domestic religion.

The spatial, functional, and symbolic qualities of temples. A study of spatial, functional and symbolic qualities of Roman temples is necessary to understand the reasons for the existence of centrality and axiality found in them. If one entered a simple temple precinct, one would see the essentials of a temple: the ritually defined area (usually bounded by some kind of wall) and the altar. A more elaborate temple area contained an *aedes*, or 'house' for the gods and for displays of offerings and treasures . Such displays were placed in the areas surrounding the temple, which also contained subsidiary shrines and altars, basins for ceremonial washing, trees and shrubs, and various seats and benches (Stambaugh 1988).

'Sacrifice' was the most common religious ceremony among the Roman ceremonies conducted within the temple. "An ox, pig, sheep, or bird was offered to the deity by an official magistrate of the city-state or by a club, or by a private individual" (Stambaugh 1988:219). This took place usually at the altar of the temple. Evidence shows that there were various modest offerings that included cakes, vegetables, flowers, and small clay images, to accompany an individual's petition or thanksgiving. Sometimes the *lectisternium*, a solemn rite of the Roman state religion took place in a temple. The festival, according to the Oxford Latin dictionary, was a special festival of supplication at which a banquet was offered to the gods, couches being spread for them to recline upon. Another similar procedure called *supplicatio*, meaning supplications, was observed when the state suffered a military setback, or was disturbed by unfavorable omens, or was subjected to some kind of good or bad excitement. During such occasion which almost occurred every year, the citizens went round to address the gods individually in prayer (Stambaugh 1988). Temples were the sites of official expressions of the civic religion, on this occasion. Temples also served the city in other capacities: as meeting places for the Senate, as a place where they advertised the generosity and military prowess of rising politicians in the republic, and of the emperor in the principate (Stambaugh 1988). Most of these activities that took place in the temples, emphasized a strong symmetrical axis along the length of the temple. Correspondingly, they also created a lateral conceptual axis

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that could be drawn through the altar, dividing the two contrasting functional zones (Figure 25). However, the position of this axis somewhat differs with different temples and their respective dedications.
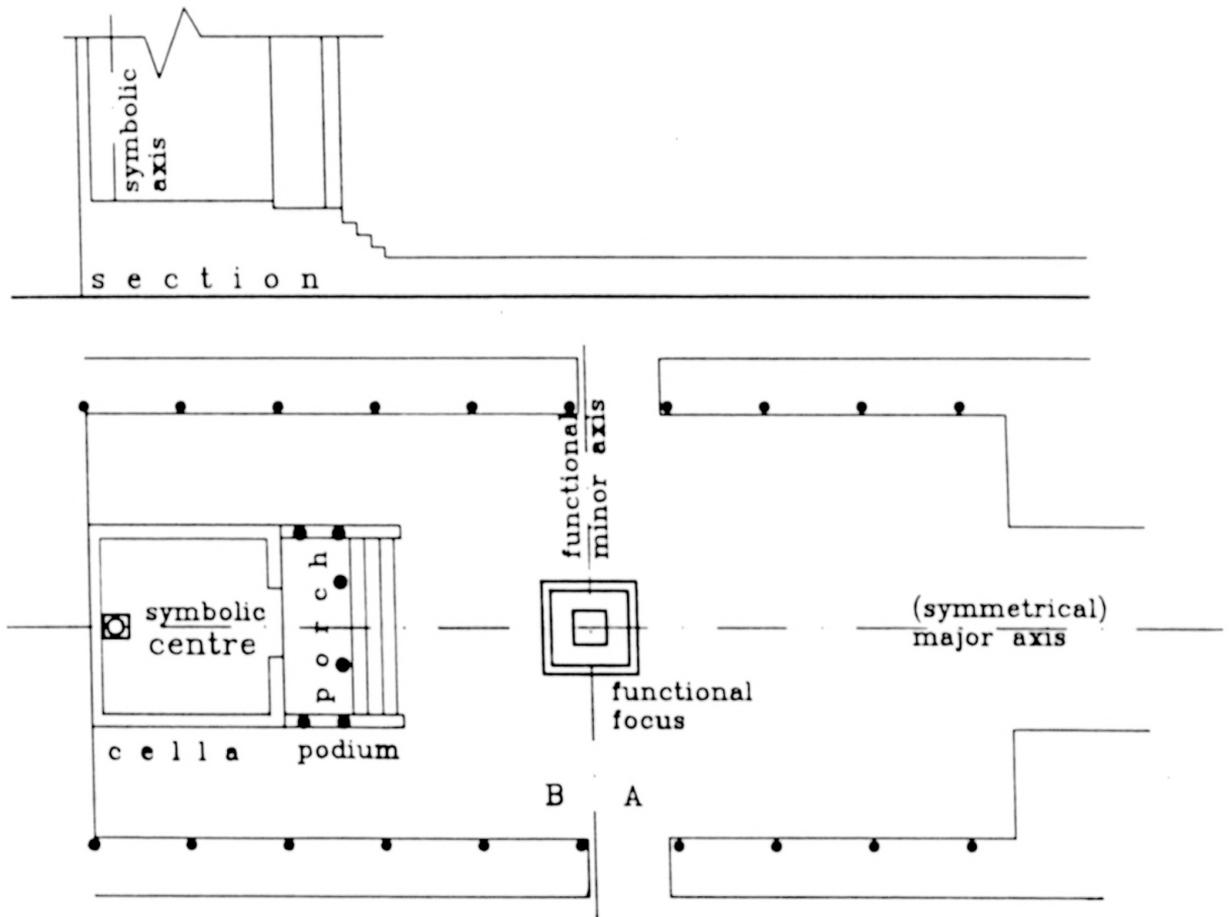
Figure 25: Typical layout of a Roman temple showing axes and centre

To the right of this lateral axi, marked as 'A' in Figure 25, is the altar amidst a proportionally large open area or sanctuary. In the case of a capitolium, the open space is usually a part of the Forum. The activities that took place in this area are more 'public' than 'private'. Almost all public ritual activities such as religious sacrifice, *lectisternium*, etc., took place at the altar of the temple. The altar in turn was the focal point of the activities that took place in the open area.

On the contrary, to the left of this lateral axis, marked as 'B' in Figure 25, is located the actual temple structure. The shrine of the gods usually was positioned close to the rear wall of the cella. The activities that took place in this part of the temple are relatively more 'private'. The worshipers usually stopped at the entrance to the cella and only during very important occasions (maybe once in a year) was the cella open to the public. This private zone was therefore the focal point of the whole complex which was emphasized by the podium and the strong frontality of the temple. A flight of steps to the podium probably served as a transitional element from the public altar to the private cella, which in turn would persuade a worshipper to concentrate.

The Roman temples were often set either singly or in groups inside colonnaded enclosures. Set both symmetrically and axially at the end of an enclosure, the temples usually were dominating the space in front of it.

The strict frontality of the (Roman) temples may have suggested an axial planning of the areas and altars in front of them. It became the prevailing rule for the temples of the Roman Republic and for temples of the Roman type throughout the Empire. It should, of course, always be remembered that axial symmetry was fashionable, at least in later hellenistic temples (Boethius 1978 p 63).

The dominating axiality of the Roman temples had strong ties with the Etruscan predecessors. However, the axial symmetry cannot be claimed for the old Etruscan altars: it seems, on the contrary, that they were placed according to the demands of the cult, facing east, or as old traditions (from before the building of the temples) determined (Boethius 1978). Nevertheless, from *archaic* (early sixth century BC) times onwards regular square areas in front of the temples with entrance on the central axis of the *cella* seem to prevail. Literature sources acknowledge that Etruscans had rules for placing of the temples much the same as those for altars and places '...set aside and limited by certain formulaic words for the purpose of augury or the taking of the auspices' (Boethius 1973).

However, the arguments for the orientation of the temples are still open. Vitruvius recommended that temples face the western quarter of the sky, enabling the worshippers at the altars to face simultaneously the sunrise and the statues in the temple. "The quarter towards which temples of the immortal gods ought to face is to be determined on the principle that, if there is no reason to hinder and the choice is free, the temple and the statue placed in the cella should face the western quarter of the sky" (Vitruvius, Chap.V.1., Herbert Langford Warren,

1914). Vitruvius also had explained the exceptions. When the site is naturally different and unavoidable, the widest possible view of the city may be had from the sanctuaries of the gods. If the site is located beside a river, the sanctuaries should face the river. Finally the houses of the gods on the sides of the public roads should be arranged so that "...the passers-by can have a view of them and pay their devotions face to face" (Vitruvius, Chap.V.2).

However, all these rules and their exceptions described by Vitruvius, do not concede with the archaeological findings at Ostia. Instead, there seems to be a prevailing tendency to make the temples face south, though with considerable deviations, such as due to the lost traditions of the different cults (Boethius 1970). Similarly, in Ostia observation shows that the majority of temples are oriented north-south and not east-west as recommended by Vitruvius, except the one dedicated to Hercules, located 200 metres west of the Forum on the north side of Via della Foce, in a roughly triangular area reserved for the religion. This temple dates from the last quarter of the second century, or the first half of the first century B.C., and strictly faces eastern quarters of the sky the reason for which is not clear. Also unknown are the reasons for the existence of two unidentified smaller temples in the same area with the temple of Hercules, fitted awkwardly in small spaces. However, the major temples positioned along the public road seem to follow one of the Vitruvian exception rules for orientation, which requires the temples on the sides of the public roads to face the same. Presumably, this

general orientation of the Roman temples could be traced back to a basic, non-Greek, tradition present in Etruscan temples even in their hellenized form. Boethius regarded the basic concept of the typical Etruscan temples as of Eastern and not of Greek origin. But whatever may be the origin, the Roman temples responded to the ritual needs of the cults and dedications, that resulted in various features which is perhaps the most characteristic of the Roman culture.

Thus the spatial, functional, and symbolic qualities of the Roman temples were organized by a symmetrically significant axis drawn through the length of the temple complex. This symmetrical axis was also a visual axis, sometimes creating a deep view from the entrance of the complex. A strict orientation of the temple is not observed from the evidence, although Vitruvius and other architects clearly approved the east-west orientation rule and the two exceptions mentioned above. An analysis of the various activity patterns in and around the temple, indicate a conceptual lateral axis drawn through the altar dividing two contrasting functional zones (Figure 25). Conceptually, the crossing of the major and minor axes is the functional centre of the complex which is at or close to the altar. Analysis shows that the cella where the shrine of the gods is positioned was the symbolic centre of the whole complex. The symbolic vertical axis indicating the divine associations with the house of gods, drawn through the cella, intersect the major visual/symmetrical axis to become the focus of the whole complex. This is also highlighted physically by its elevation: the temple building was placed at a

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relatively high podium, and its dominating frontality: the temple was usually set at the back of the sanctuary, approached by a flight of steps, and entered only from the front. Consequently, the cella is interpreted as the symbolic centre of the whole temple complex, and possibly the altar as the functional one.

These symbolic qualities of the Roman temples were distinctly manifested in the Capitolium located at the north end of the Forum of Ostia. But there are several other issues unique to a Roman Forum manifested in affiliation with qualities mentioned above.

Forum at Ostia. The Forum, the second scale to be discussed, is the centre of almost every Roman city. Of all the greatest axial Roman monuments, the 'Forum', an open market place or *piazza* for public affairs, was the most prestigious one. It was a symbol of a developed city, which holds complex institutions. Throughout antiquity the Forum retained something of its original character as an open space available for all the manifold communal activities of urban life in Mediterranean lands: market-place, place of political assembly, law court, a setting for public spectacles, the natural meeting-place for private citizens doing business, and, since all these activities were in some degree under divine protection, a focus for the religious life of the community. The Forum was an open area usually rectangular in shape and often surrounded by colonnades on one or two storey (Figure 26 & 28).
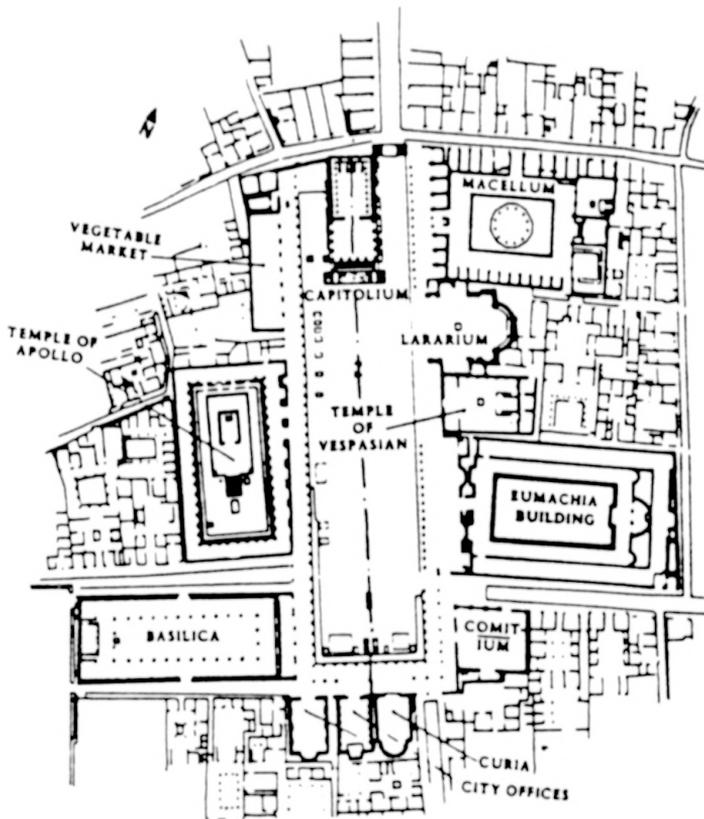
Figure 26: Layout of the Forum at Pompeii

Important temples often faced onto it and there were in addition the various public

offices and meeting places of the *curia* or town council. Also found often are the

assembly place for the comitium or popular assembly, and sometimes shops or

macella (provisions markets).

Boethius (1970) examined the development of the Italic market-place

towards the axial monumentality and splendor of the Fora. Different elements

seem to have contributed. First, the old traditions of the Etrusco-Italic temples,

with their frontal orientation and their open space in front of the stairs of the

pronaos (Figure 27-A). Second, the old market-places with their rows of shops, which, as the history of the Forum Romanum shows, were no less deeply rooted in Italic life (Figure 27-B). A third formative component was rectangular hellenistic piazzas surrounded by porticoes and having a temple on the longitudinal axis (Figure 27-C). Unlike the detached temples of the Greek piazzas, the monumental Italic fora of the last centuries B.C., has dominating temple built usually against the northern wall of the Forum.

At present, the fora of Cosa and Pompeii are the first known regular Italic piazzas. Especially in the example at Pompeii, one can observe a distinct longitudinal central axis, which shows more clearly how the traditions of Etruscan temples and old Italic market-places united with hellenistic magnificence. Even before the Roman colony, *c.* 150-120, the old forum received a temple of Etruscan type at its upper north end, with stairs and pronaos towards the forum. It thereby obtained a central axis running lengthwise from north to south. The *tabernae* were demolished, and in the second century, along the east, south and west sides of the rectangular space, suggested by the orientation of the Etrusco-Italic temple, two-storeyed porticoes were built in the hellenistic style. An important change in the pre-Roman monumental piazza, caused by the Roman colony, was that the temple was transformed into a Capitolium for the Capitoline triad. From this combination of an Italic market-place and a Greek colonnaded piazza is derived Vitruvius's rule (v, I. 2) that Italic fora should be oblong and prescribed that the breadth should

TYPICAL ETRUSCO – ITALIC TEMPLE

FIGURE: 27-A

OLD MARKET PLACE

FIGURE: 27-B

TYPICAL HELLENISTIC PIAZZA
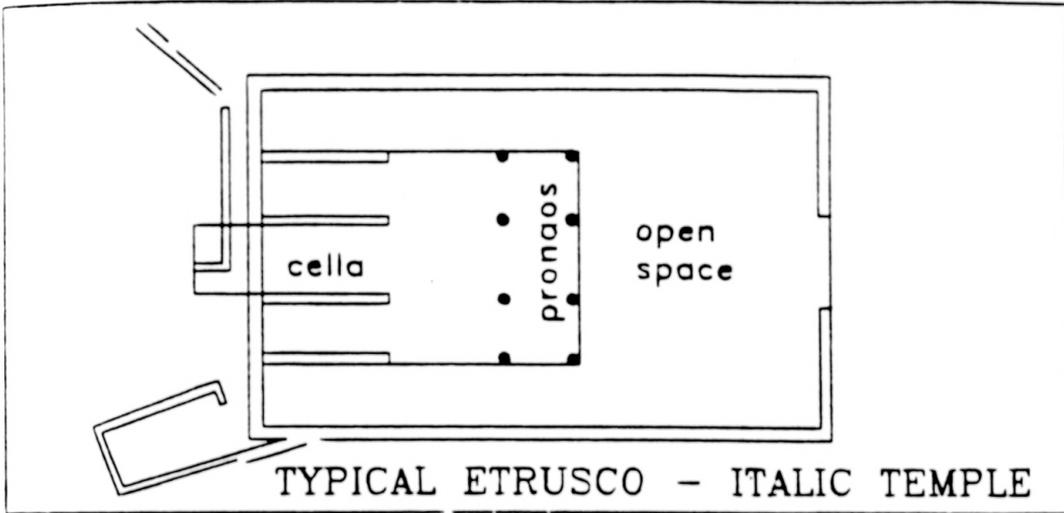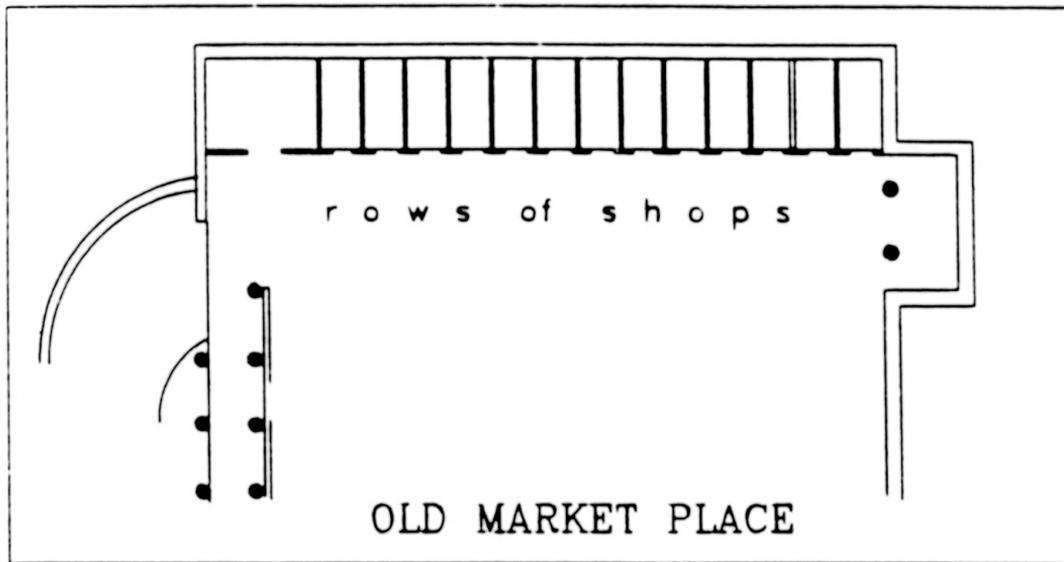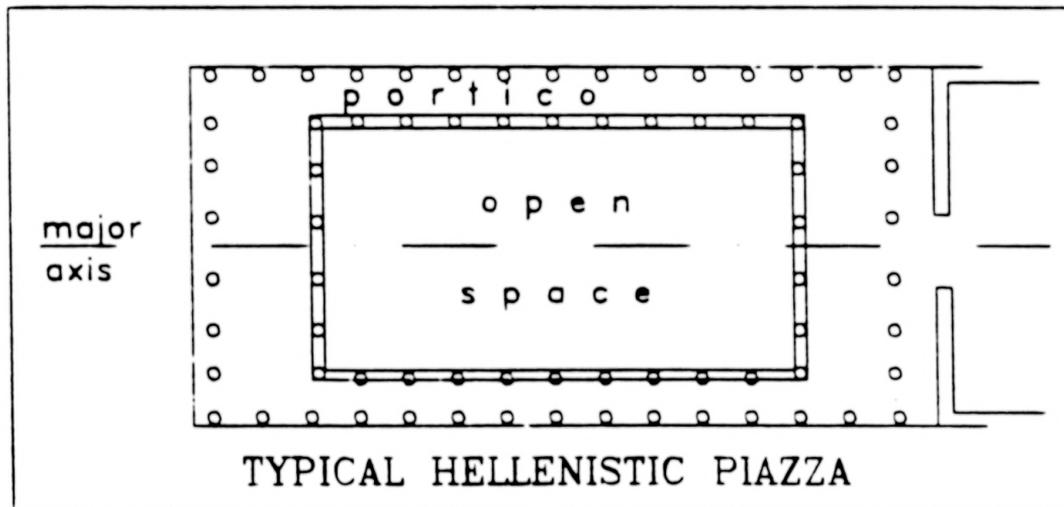
FIGURE: 27-C

Figure 27: The different elements that contributed
to the development of the Italic market-place towards
a Forum

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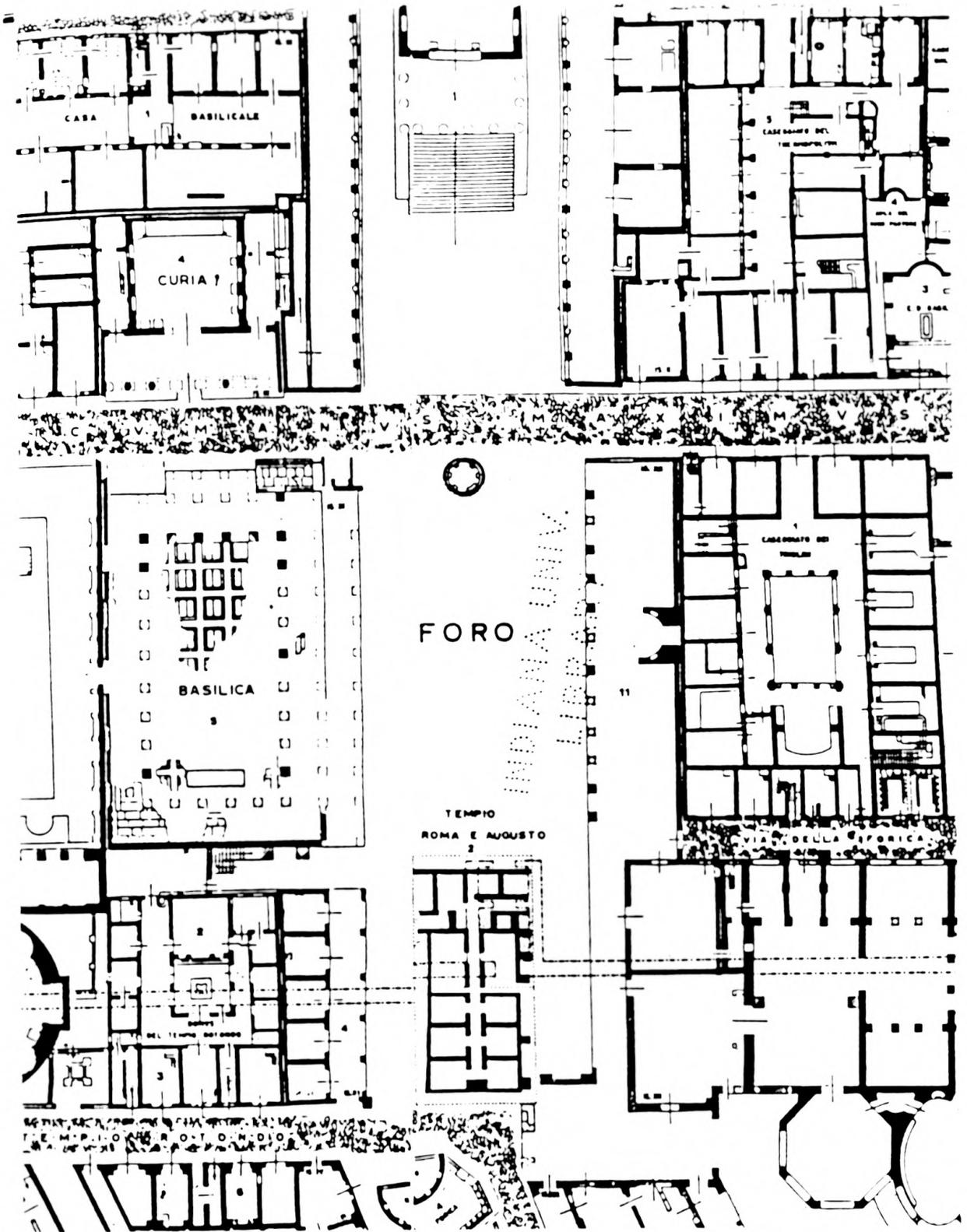
Figure 28: Layout of the Forum of Ostia

be two thirds of the length. He also defined the intercolumniations round the show place or the piazza to be unusually big, unlike the Greek layout of the *agora*. The various cities and towns of the Roman empire including Pompeii, Cosa, and Ostia in part signify this rule in the plan of the fora.

The Forum at Ostia has undergone many radical changes over the period of time. According to Meiggs, it is doubtful whether in fourth-century B.C., Ostia had a Forum. However, Calza's explorations showed that what became the free area of the imperial Forum, south of the Decumanus, was once fully occupied by republican buildings. In the early first century B.C., and probably in the period of Sulla's dominance, new walls were built around Ostia enclosing an area of roughly 160 acres, nearly thirty times as large as that of the Castrum. But due to limitations of the evidence, a clear picture of the existence of the Forum during this period is highly uncertain. It is not until the late Republic and early empire that there is clear evidence of the Forum. Although the main arteries, namely the *Decumanus* and the *Cardo*, had already been established, the south-east side of the town developed irregularly, due to uncontrolled development that was never corrected. Meiggs suggested that the Forum could have been proposed at this stage to provide an imposing centre for the town. Under Augustus (27 B.C. - 25 A.D.) important additions were made to the public buildings of the town. Radical changes were also made in the Forum. Towards the end of the First Century B.C., two temples were built on the north side of the Decumanus. The larger

replaced what was probably a secular building; its smaller western neighbor may have replaced an earlier temple on the same site. The increase in the number of public buildings and the replacement of old buildings by new continued through the Julio-Claudian period. Shortly after the death of Augustus a temple of Rome and Augustus was built at the south end of the Forum directly facing the larger of the two temples at the northern end. The temple cella was not approached from the front, instead there were two approaches on either side probably because the front was always used by orators and judges.

Hadrians' principate (A.D. 120-230) marks the decisive stage in Ostia's transformation. More than half the buildings that can now be seen date from this period and they are spread throughout the town. The main streets assumed a new dignity, emphasized by continuous porticos in brick. The Forum was subjected to major remodelling, especially the northern end, to make it a more fitting centre of the town. The republican temples at the north end would have been dwarfed by the new tall brick buildings. They were now destroyed and replaced by a single temple standing back from the Decumanus. To dominate the new buildings this temple, the Capitolium, was raised on a high platform. In front of the Capitolium a sacred area was reserved, extending the free area of the Forum; it was lined on either sides by colonnades. Further changes were made south of the Decumanus, probably later in the reign. Two monumental arches built on either side of the temple of Rome and Augustus, closed the Forum at its southern end;

new porticos framed it on east and west. It can be suggested that all these renovations, especially the northern side of the Forum would have been a major concern for the imperial rulers and that it may have derived from the imperial initiative to use the land close to the river.

The spatial, functional, and symbolic qualities of the Forum. Also suggested are the spatial, functional and symbolic meanings of centrality and axiality of the Forum to be associated with the imperial motivation. The Forum has always been, both geographically and symbolically, the centre of the settlement of Ostia, symbolizing the status of the town. The development of the Forum was always a consequence of improving the town. Initial settlement of Ostia, the castrum or the military camp, was a rectangular space bounded by a fortification wall with gateways at the cardinal points. The cardinal axes emphasized by the pathways, namely the decumanus and the cardo were perhaps the first sign of the axial order to the settlement followed by the allocation of the forum. Further improvements of the settlement only followed the above structure with minor changes. Thus the distinctly rectangular Forum was oriented north-south at the centre where the two axes intersect with the temples at the northern and southern end, and the centre space of activities for the people. As discussed earlier, the various stages of the development of the Forum and the temples at the Forum, were always associated with major imperial events. The performance of secular

rituals was a form of worship and the worship an official act. The various spaces, both ritual (Temples) and secular (Basilicas, market places, etc.) were arranged in a static symmetrical composition, while the ritual activities were arranged according to the dynamic axial vectors. The longer N-S axis of the Forum of Ostia, coincides with the cardo and the shorter E-W axis with the decumanus of the town. The longer axis is emphasized by the presence of a deep view from the southern side of the Forum, with functionally specialized rooms on either side symmetrically placed, ending with the Capitolium on the northern side. This deep view was probably obstructed only by the ritual activities of the people in front of the temple forming a visual focus of the whole space. A sufficiently matured Forum is one of the best indication of an active settlement. Just as the way the temples were to the people, the forum was to the town. People visited the Forum as frequently as they did the temples, only their respective activities were different. The concept of combining different activity spaces such as worshiping, shopping, public meeting etc., made the principles of centrality and axiality of the Forum as powerful as a totality of the respective principles put together. It was more of a combination of their individual meaning and purpose of their existence. Thus the central court was flexible enough to transform itself to suit the various demanding occasions. Be it a ritual festival to the gods of the temples, a Roman triumphal celebration, a general public meeting, or just a gathering at the market place, the same central open space was used. Each individual occasion did have its own

symbolic needs as far as architecture was concerned which was probably satisfied by the spatial design of the Forum with its powerful centre and axes. Norberg-Schulz (1975) explained the two major spatial structures possessed by Roman monuments. One, the properties of the vernacular structures with the roots in the earth to which it belongs and two, the abstract axis which made the cities become the focus of a more comprehensive totality. "The main property of the first component is the 'idyllic' enclosure of the urban spaces; the second, instead, aims at axial symmetry. When these two components are combined, a particular kind of architectural unit comes into being: an axially ordered enclosure, which may be considered the basic element of Roman architecture" (Norberg-Schulz 1975: 51). Roman monuments are a result of historical growth, always crystallized as an enclosed figure and always ideally rounded. The roots of the forum of Ostia originated from the earliest known military settlement, the castrum, which was cardinally oriented and directly connected by road and river to the city of Rome. Thus the Forum had strong meanings with respect to its orientation, and was important to the people of Ostia as much as the city itself. The urban space of the Forum was considered extended through the historically rooted cardinal axes to the city and whole empire as well. As a part of integrating the Forum with the urban scene of the city, which is typical of Roman architecture, an axially ordered enclosure was developed during the course of time. At the same time, the objective was to create a focus of the whole Forum that motivated imperial

idealism, in an axially crystallized form and space, which in turn symbolized cosmic order. The ultimate focus developed and always recognized, was the activities themselves. Thus the final phase of the development approved the extension of the central space by demolishing the temple structures located close to the decumanus and construction of a temple, the capitolium, at the northern end of the Forum. As far as the capitolium was concerned the cella formed the symbolic focus where horizontal axes intersect the vertical one. But for the Forum as a whole, the intersection of vertical and horizontal axes was at the central open activity space, thus creating a link in meaning of the capitolium, Forum and the city as well.

The Settlement of Ostia. Ostia was a harbor town of Rome, and was thus particularly well-placed to reflect the styles and tastes of the capital. It is therefore a fundamental document of the urban and social changes which took place in the later Empire, and in addition illustrates the whole life of a Roman city from the fourth century BC to the fifth century AD.

Ostia is situated on the south bank of the Tiber river close to its mouth, at a distance of about 15 miles from Rome. The road that links it with Rome, the *Via Ostiensis*, leaves the capital through the *Porta Trigemina* and runs close to the south bank of the river. Ostia was founded as a defensive fortress to protect Rome's coastline and was a part of the series of coastal forts. Although the exact

date of its foundation is not known, it can probably be placed between 349 and 338 BC.

The outline of the original *castrum* can still be seen, although the actual walls have largely disappeared (Figure 2). It was rectangular in shape and covered an area of about 2.2 hectares. The usual two main streets typical of Roman towns, the *decumanus* running east-west, and the *cardo* running north-south, divided the fort into four areas and intersected in the middle, the area where the later Forum was built. The eastern branch of the decumanus led directly to Rome, but the roads to the south and west were somewhat irregular.

At about the time of Sulla (around 80 BC) new walls were built around Ostia enclosing an area of 63.5 hectares, or almost 30 times the extent of the original castrum. This wall circuit is trapezoidal in shape, and its line is partly dictated by the coastline and the river. The three main gates are the *Porta Marina* through which the western decumanus runs to the sea shore, the *Porta Laurentina* through which the southern cardo runs on its way south, and the *Porta Romana* which marks the end of the eastern decumanus and the beginning of the *Via Ostiensis*. There was a clear contrast between those areas (the castrum, the north-east sector, and to a lesser degree the south-east sector) which were available for orderly, rectangular development and those (the whole area west and south of the castrum, between it and the sea) in which development was determined by the prior existence of irregularly disposed topographical features (Figure 1). During

the last century of the Republic, porticoes on tufa piers began to appear along some of the main streets, while atrium and peristyle houses continued to be built. Perhaps the most important development of the period was the rebuilding of the north-east corner of the town. This land adjacent to the river was declared public property by the Roman praetor, and the whole area replanned on orderly lines. The regular planning of the area north of the eastern decumanus contrasts starkly with the haphazard development south of it, where private building took shape irregularly. At some time during the late Republic or the early Augustan period the centre of the old castrum where the cardo and the decumanus meet was cleared of buildings and laid out as the Forum.

Later, with the construction of the Trajan's new port, Ostia became a boom town. During Trajan's reign the western end of town, where the road from the port entered, was completely transformed by multi-storied insulae built of the brick-faced concrete that was now the standard material of urban construction, at Ostia as well as Rome. A radical replanning of the northern cardo provided a monumental approach to the Forum from the river. The point where the cardo met the river was a landing place of importance where the Emperor or any visiting dignitary would land. The road from the river to the Capitolium was laid out on broad, straight lines and was flanked by brick porticoes. The whole adjacent area was also rebuilt at that time. Porticoes lined almost all the main streets and added

a sense of monumentality. During the same time private enterprises invested in real estate - the Garden Houses and other residential units.

By the end of the third century AD there were signs that the boom was over. By the sixth century only a few inhabitants lived in the ruins of buildings, half-demolished and stripped of their marble. Finally, the area became malarial and was abandoned. Thus Ostia remained naturally unclaimed all through until recently it was taken over as an archaeological site. Today, the restorations let us clearly visualize the settlement and its patterns of living, along with the ways the planning of the town was initiated.

The spatial, functional, and symbolic qualities of Ostia. Boethius (1970) discussed the various influences in Roman town planning, especially from the Etruscans. "The axial planning suggested by the Etruscan temples and the rules about places for auguries and auspices may well have been a source of inspiration for the creation of regular towns" (Boethius 1970:54). Development of the town of Ostia indicates that the Romans were conscious of certain conspicuous order of living. First, the original castrum with its rectangular wall and two major streets running perpendicular to each other can be explained with Norberg-Schulz theory of how Romans consecrated a place.

When a Roman place was consecrated, the augar seated himself in the middle and main axes through the centre, dividing space into four domains: left and right, before and behind (Figure 14). This division was not arbitrary, but represented the cardinal points and was also accommodated to the forms of the surrounding landscape. The space which was thus defined within the boundary of the horizon was called the templum. The Romans then, took a general spatial image as the point of departure for their layouts, rather than a particular character embodied in plastic forms. Any Roman place is a manifestation of this basically cosmic order" (Norberg-Schulz 1975:84, Figure 29).
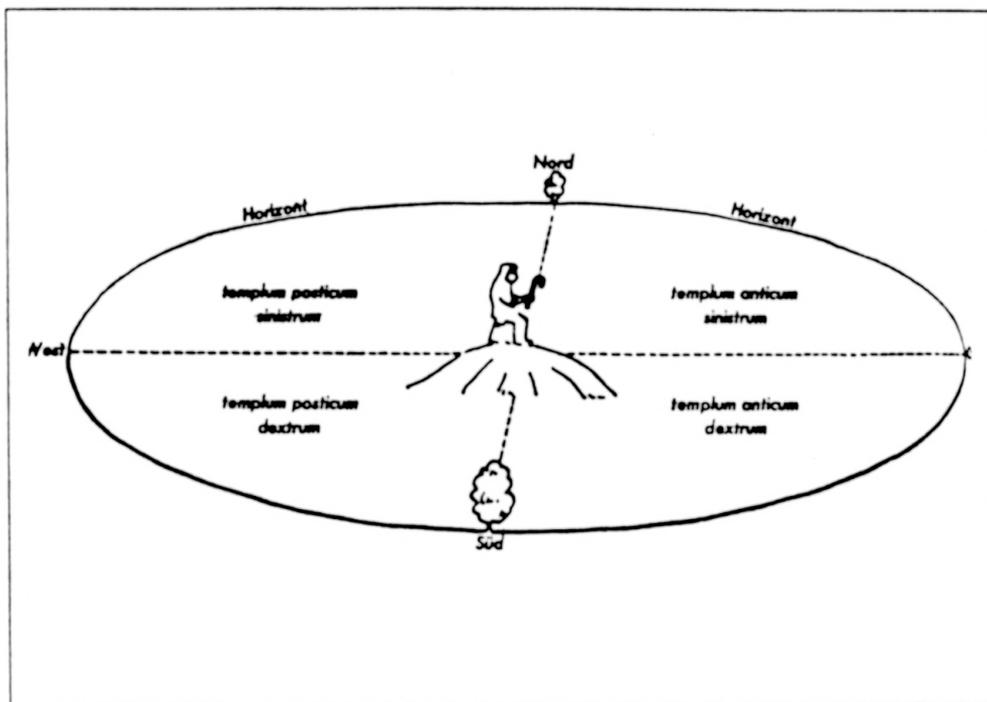
Figure 29: Norberg-Schulz's diagram of how a Roman place was consecrated

The Roman castra and city - and Rome itself- are based on the same model:

The square or rectangular area is divided into four parts by two main streets

intersecting at right angles; the primary cardo and the secondary decumanus. According to W. Muller (1961:36) the cardo running from north to south, represented the axis of the world, and the decumanus the course of the sun from east to west. The centre was initially a pit, and later developed into a forum, representing the centre of the world called the *mundus*. "The mundus symbolized a contact with the chthonic forces man had to come to terms with, like the cavern under the omphalos stone in Delphi" (Norberg-Schulz 1975: 88). Thus the Forum was usually located close to the symbolic centre of the town, as an axially organized rectangular space. Though the basic symbolic grid - the castrum was a perfect rectangle, the development of the town of Ostia took different shape. Whereas the eastern part of the town was just an extension of the decumanus, the west suffered an organic development. Boethius (1970) explained how a Roman town transferred itself into certain irregular patterns. It is the day to day life and its needs that affect the developmental plans of a town. The plan of Ostia shows how during centuries of peace, trading towns developed haphazardly if military demands or special planning did not impose regularity. The outer wall of Ostia illustrates how, during war times, the defence had to accept such a town just as it stood. Yet it is possible to derive a hypothesis for the various directions of the streets with a close look at what Vitruvius has to say about the lay out of the Roman streets and their preferable directions.

Vitruvius (Chap.IV.1, Herbert Langford Warren,1914) analyzed a design to show the precise quarters from which the winds arise; and how by turning the directions of the rows of houses and the streets away from their full force, one can avoid unhealthy blasts of wind (Figure 30). Incidently, applying these principles to the street directions of Ostia, one can observe that several streets align with the diagram (Figure 30). Thus it is possible to interpret that these streets have healthy and explicit reasons for their orientation, though the directional patterns and the development seem to have broken from the regular formal directions. Within the limitations to survive as a harbor town, Ostia had proved its best in maintaining the formal street patterns in spite of the pressures of high population density and daily life requisite, its "...architecture more of content than of style, derived more from daily reality than from artistic ideals" (MacDonald 1986: 253).

The Meaning of Centrality and Axiality. The layout of Ostia makes homologous the city with temples, and the ruler of the city with the Gods. An example like Ostia has shown that, regardless of building type and task, and environmental level, the Romans employed the same fundamental spatial image. It is clear that this image represented a world order abstracted from certain natural phenomena, such as the cardinal points, and from ancient symbolizations, such as the "spiritual" vertical, the "profane" horizontal and the concepts of centre and path. Roman architecture therefore is characterized by uniformity. This is not
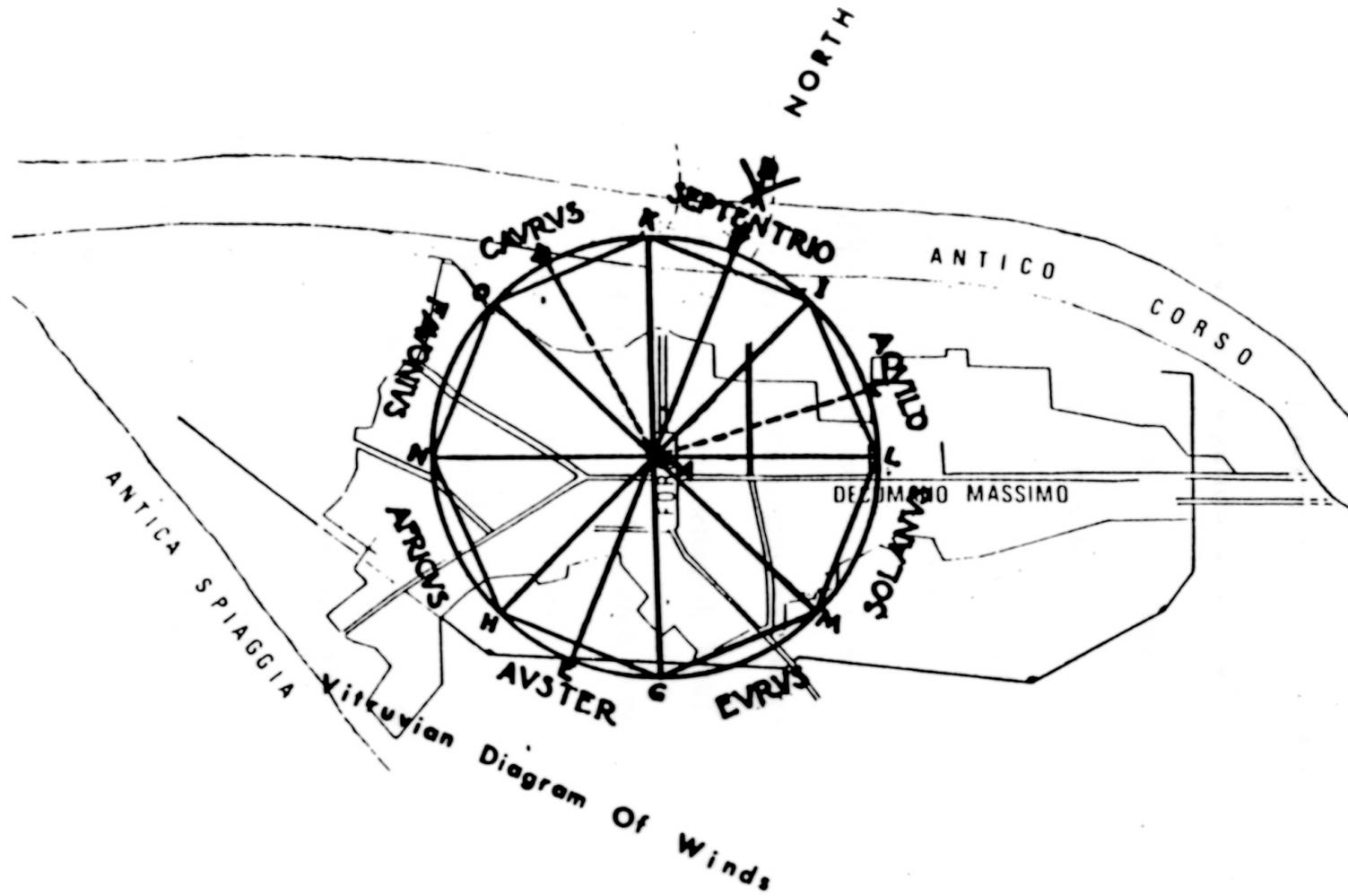
NORTH

SEPTENTRIO

CAVRVS

AQVILO

FAVONIVS

SOLANVS

ANTICO CORSO

DECUMANO MASSIMO

AFRICVS

AVSTER

EVRVS

ANTICA SPIAGGIA

Vitruvian Diagram Of Winds

Figure 30: Several streets at Ostia align with the
Vitruvius description of the direction of streets in order
to avoid unhealthy blasts of wind
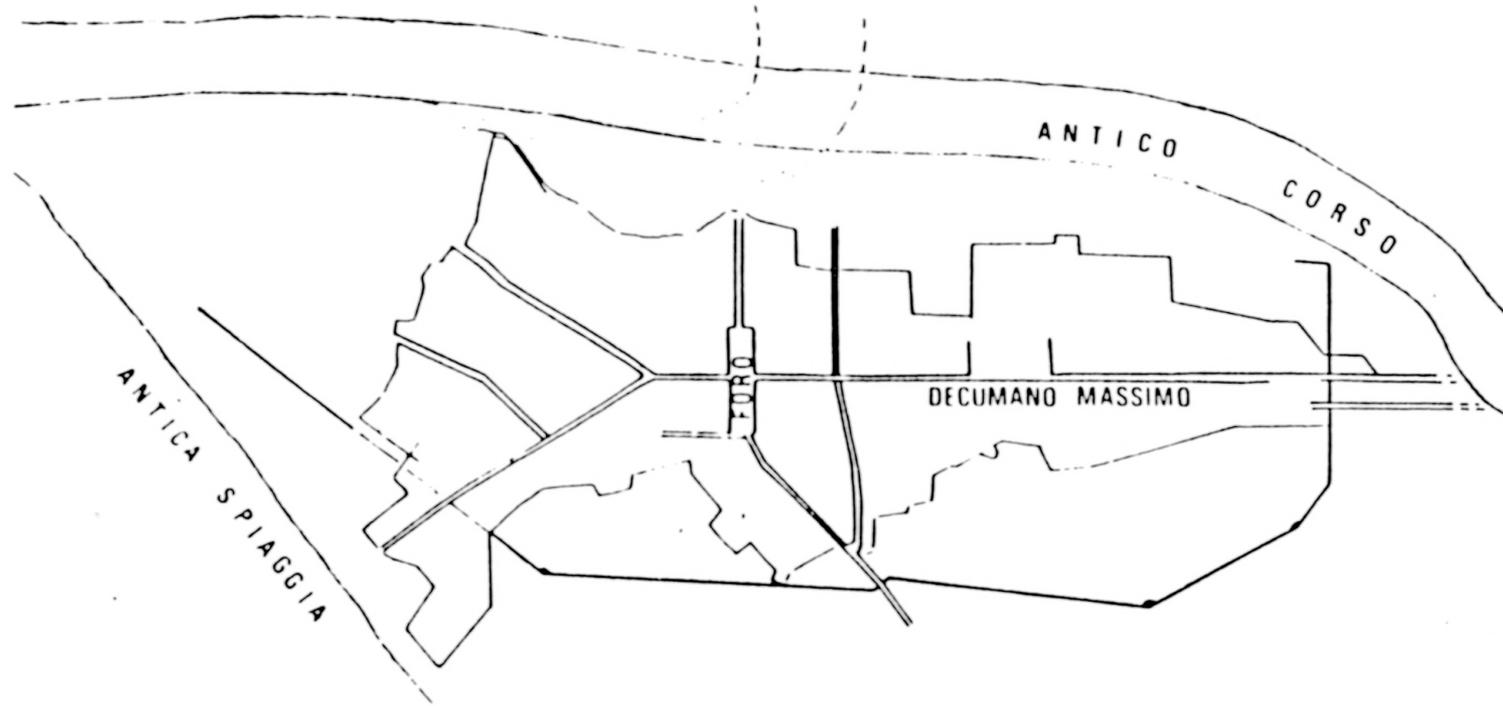
Figure 30: Several streets at Ostia align with the Vitruvius description of the direction of streets in order to avoid unhealthy blasts of wind

only due to the employment of the same basic image, but also to the wish to make this image a dominant principle symbolizing authority. Romans were practical and well organized people, and demanded architecture to be truly systematic; at the same time, functional and meaningful. Axes and centre are therefore manifestations of such forces acting at almost all environmental levels and time in Roman history. Ostia originated as a typical Roman castrum, based on the *Roma quadrata* (refers not to the shape of a space but to a division into four parts): the primary cardo and the secondary decumanus. This general organization, common to both landscape and settlement, concretized a cosmological image, and the town was intended as a microcosm, a fact which is furthermore indicated by the close affinity of the words *Orbis* (world) and *Urbs* (city) (Norberg-Schulz 1974). Every building thus represented the totality, and every place reminded the Roman citizen of the world order to which he belonged. Watts (1987) clarified the reason for the geometrical patterns of the dwelling units to remain relatively constant in time, even with changes in life style and density of housing at the major Roman towns such as Ostia, Pompeii, and Herculaneum. Watts interpreted that this issue is highly related to the meanings which these geometrical patterns, both individually and combined, had for the Romans. Also, meanings for certain symbolic characteristics such as the vertical axis of the atrium as the connection to the outer world, and the entrance, the strong sense of hierarchy and centrality, the deep view, etc., all have parallels to other aspects of the Roman society. From ancient

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times the house has been understood as a microcosm, and as a space within a space it repeats the basic structure of the environment (Norberg-Schulz 1985). In many ways even parts of a house and its decorations represented a microcosm of the Roman's understanding of the world and man's place in it. Thus geometrical patterns had a strong symbolic content at almost all environmental levels. While every city and town was considered a microcosm on its own, Rome in its totality was considered the centre, the *caput mundi*, of a system of ways and domains.

For Romans life on earth was not a mere imperfect reproduction of the ideal archetypes, it was a direct and meaningful manifestation of divine will. Thus we understand that the contradiction between cosmic order and practical action is only apparent; in reality order and action were understood as aspects of the same historical process (Norberg-Schulz 1974:112).

The Roman interpretation of their gods was highly significant; they recognized history as a basic dimension. The Roman gods are not primarily abstracted from the experience of natural forces and anthropomorphic characters, but were envisaged as the agents of the historical process and as symbolizations of its different aspects. *Janus*, in general was the god of all beginnings, *Mars*, the god of battle and war, and of supreme importance, was *Jupiter*, who was the great protector of the city and the state. Rather than personalities, these gods were conceived as forces. They do not belong to particular places and do not form part of an original mythology (Norberg-Schulz 1974). During the Imperial epoch, thus the Emperor took over the functions of the gods. Divine authority was invested

in this person, and a pseudo-cosmos was established around him. As Cosmocrator, the emperor was the supreme power controlling this world, and the city was a manifestation of his role. His actions were manifestations of divine will, and hence were marked symbolically by axes and centre. Thus the Emperor and his *palatium sacrum* acted as its meaningful centre. "The *palatium*, therefore, was a concept rather than a specific building, which implied a universal and divine power that came from the gods and was made manifest in the person of the ruler" (E. Baldwin Smith 1956:98). To establish in living environment the actual cardo-decumanus relationship - the axiality and centrality, is to authenticate the divine authority in an eternal form, which in turn recognized time as a basic existential dimension.

CHAPTER FIVE: COMPARISON OF MEANINGS OF CENTRALITY AND AXIALITY AT THREE SPATIAL SCALES: OSTIA AND VIJAYANAGARA

This chapter deals with identifying reasons for similar and different meanings of centrality and axiality at Ostia and Vijayanagara through a comparison of the meanings identified in the previous chapters. An analysis of the meanings of centrality and axiality at three major scales in these settlements has left many questions to be answered. Beyond doubt, the act of occurrence of axis and centre at various scales is irrefutably not accidental. Though Romans had ties with the Oriental cults, evidence to prove links between the Hindu and the Roman culture is still inconsequential. This does not mean that both the settlements survived without dramatic influences from any other cultures.

At Ostia and Vijayanagara systems of geometric principles were developed according to which the spatial relation of built forms were organized at several scales. These systems share certain characteristics yet differ in others. Thus the north-south axis organizes features in at least three scales (Figure 31). Further in each settlement, it is the same axis which organizes features at successively larger scales. This property most directly communicates the relation between different scales. For, the organizing axis at each scale lies on (or, is included in) the axis at other scales. The axis at the smallest scale may be considered a condensation of that at the larger ones; alternatively, the latter may be considered an extension or expansion of the former.
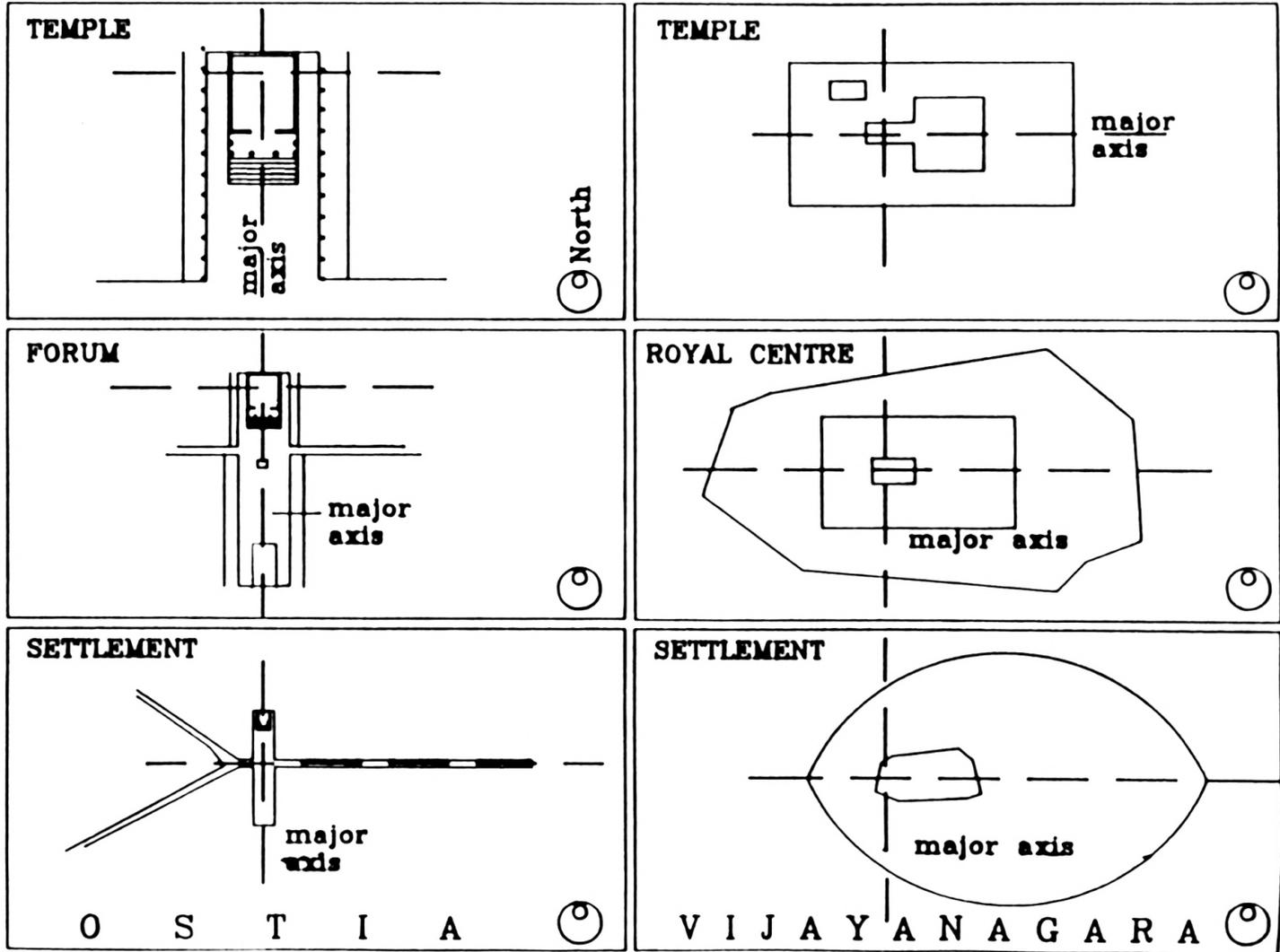
Figure 31: The north-south axis organizes features in at least three scales at both Ostia and Vijayanagara, it is the same axis that **organizes features at** successively larger scales **as well**

This comparison will again follow the similar pattern of organizing the three scales as done in the previous chapter: first the Temples, then the Forum at Ostia and the Royal centre at Vijayanagara, and then the settlements as a whole.

The Temples: At the smallest scale in each settlement is a building which is employed in religious rituals and which is the seat of divinity. In both the cases the divine figure(s) had a permanent residence. Because the experience and celebration of the divine was more intense and concentrated, and since the experience of the relation between features was more perceptible than in spaces at larger scales, meaning of the organizing geometry is strongly communicated in these highly specialized structures. In this sense, the meaning of the pattern can be said to have "originated" in these structures. It is quite likely, in fact, that such structures were the inspiration for the patterns employed at larger scales. But this does not mean that the Capitolium at Ostia and the Ramachandra temple at Vijayanagara directly inspired the plans of their respective settlements. However, sources prove that in both cultures, similar religious spaces had been constructed and experienced by many previous generations, and were available as paradigms.

Geometrical analysis of a typical temple from both Ostia and Vijayanagara acknowledge the principles of symmetry defined earlier: translation, reflection and rotation. At Ostia temples usually followed translation, where the colonnaded porticoes, the open space design and other paraphernalia placed for the occasions together with the ceremonial patterns themselves were repeated along the north-south axis, thus symbolizing the indefinite repetition of ideal units and a

speculation that there was a one-to-one correspondence between them. The temples also show mirror symmetry along the same axis, that is rather strictly imposed, which conveyed an equivalence in the ideal units on either side of the axis that in turn emphasized the axis itself. The paraphernalia found on each side were balanced, even the performers carried out certain motions, or acts, in one direction and then repeated them in the opposite direction. Whereas these symmetrical principles are strictly imposed, the rotational symmetry is not, rather the centre is more suggestive and symbolic.

At Vijayanagara however, existence of these symmetrical principles are highly conspicuous. The temple structure in this case was the major focus of the whole complex occupying the central area with open space around the temple proper. Therefore, the translational symmetry is suggested by the ritual and ceremonial actions along the north-south axis and to a lesser extent by the temple components. The hierarchy of space: the entrance, the pillared hall, the antechamber, and the principal shrine where the divine god is seated, also express a higher degree of translation and reflection symmetry symbolizing the hierarchy of social elements and its degree of intimacy to the divine. Nevertheless, the temple complex shows a high degree of reflection symmetry along the same axis both through the activities and temple elements. Exceptions to this mirror symmetry are the usual location of an entrance to the compound from the north and the minor shrine complex of the northwestern quarter of the compound. Here again the rotational symmetry is not applicable and the centre is highly symbolic (Figure 32).
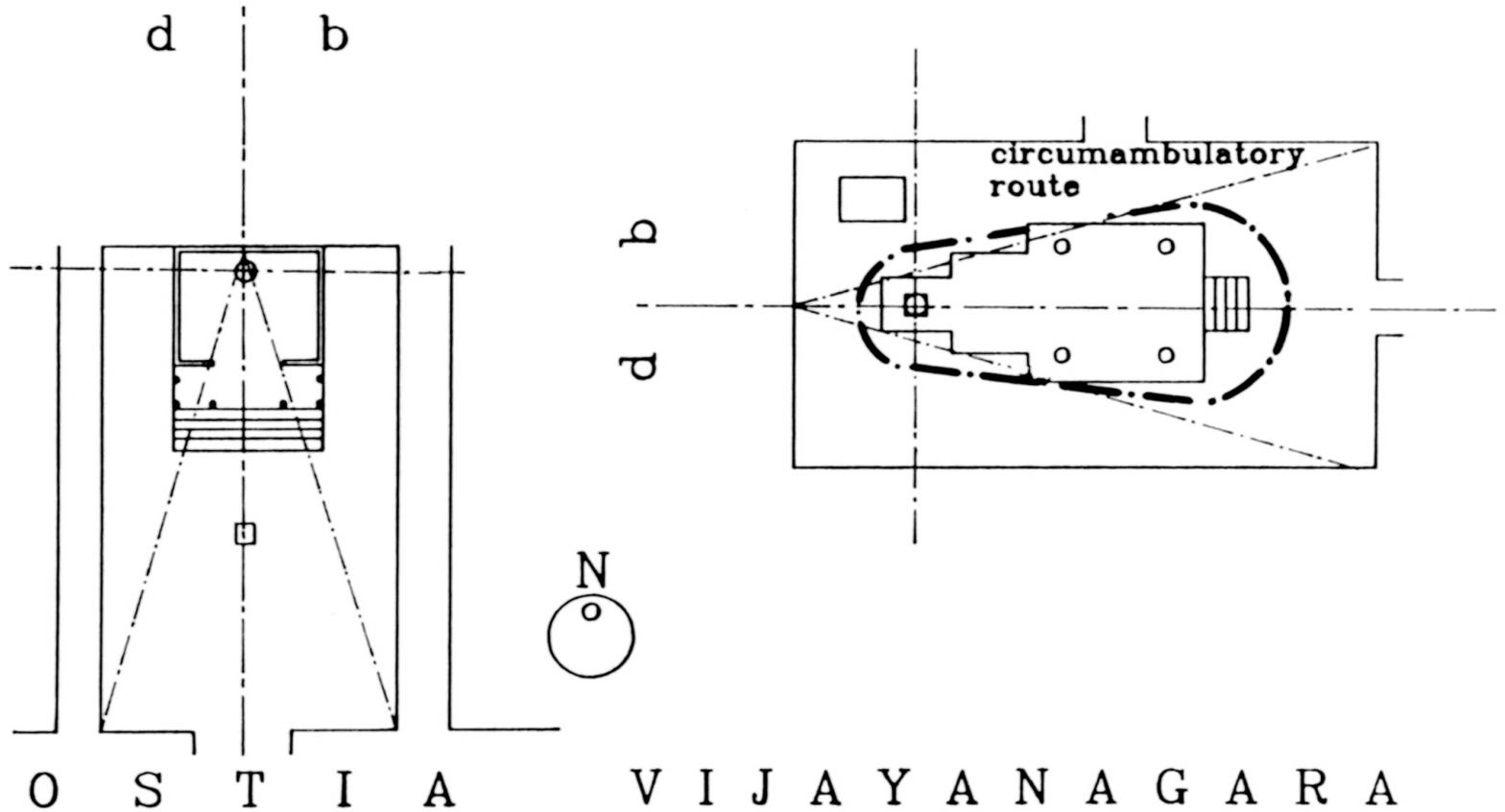
Figure 32: Principles of symmetry: reflection, translation and rotation, are acknowledged by the layout of a typical temple from both Ostia and Vijayanagara
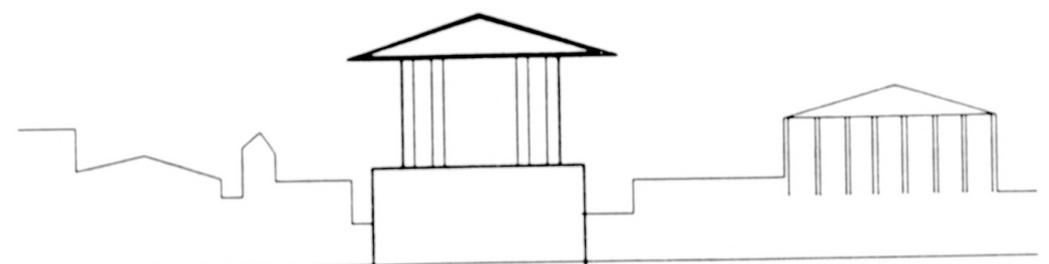
The Capitolium was made intentially taller and highly appealing
to represent the symbolic centre
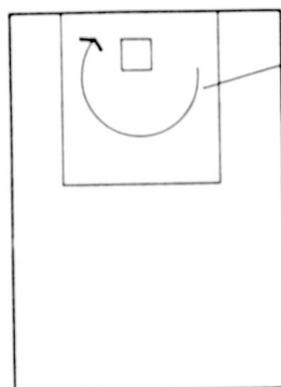
circumambulatory path around
shrine to address the god

CAPITOLIUM

Figure 33: Various reasons to emphasize the Capitolium at Ostia as the cosmic nucleus of the whole settlement

Both Ostia and Vijayanagara accentuated the temple as the symbolic and

cosmic nucleus of their own respective settlement. The horizontal axes of these

temples formed the organizing axes at the larger scales as well. Thus apart from

the regular meaning of the axes and centre of a typical temple, these two temples

had more meaning and power in their existence. They were the symbolic focus

of the whole city, where the symbolic vertical axis for the settlement existed. Further more, the circumambulatory routes around the principal shrine of the temples are the compelling evidences for their existences. At Ostia, there are literary evidences that illustrate citizens circumambulated the shrine to address the gods individually in prayers and did many ritual offerings (Figure 33). Also, the fact that the Capitolium was intentionally made taller and highly appealing, were some of the reasons to emphasize its importance of being the centre of the settlement. The ultimate power from the heavens was conceived to have descended through the vertical axis or the *axis mundi*, and believed to have radiated to the rest of the town through the horizontal axes. Thus the Capitolium was the cosmic nucleus of the whole settlement of Ostia. Whereas the Capitolium followed a conservative method of symbolizing the existence of a vertical axis, the Ramachandra temple at Vijayanagara had more direct and physical illustrations. Unlike the Capitolium at Ostia, the Ramachandra Temple at Vijayanagara has the temple proper located in the middle of the complex with open space around it for circumambulation (Figure 34). The Circumambulation is a part of almost all the ritual activities of the Hindu religion. Vijayanagara show circumambulatory routes in almost all scales: the principal shrines, the temple complex, and even the Royal centre. Also, the friezes of the enclosure wall proceed in a clockwise direction; the movement from the enclosures in the southwest to those in the southeast also proceeds in a clockwise motion about the temple. Thus the principal shrine of the Ramachandra temple pivoted these clockwise movements and the circumambulatory routes which in turn accentuated its presence.

RAMACHANDRA COMPLEX

The friezes of the enclosure wall proceed in a clockwise direction

TEMPLE
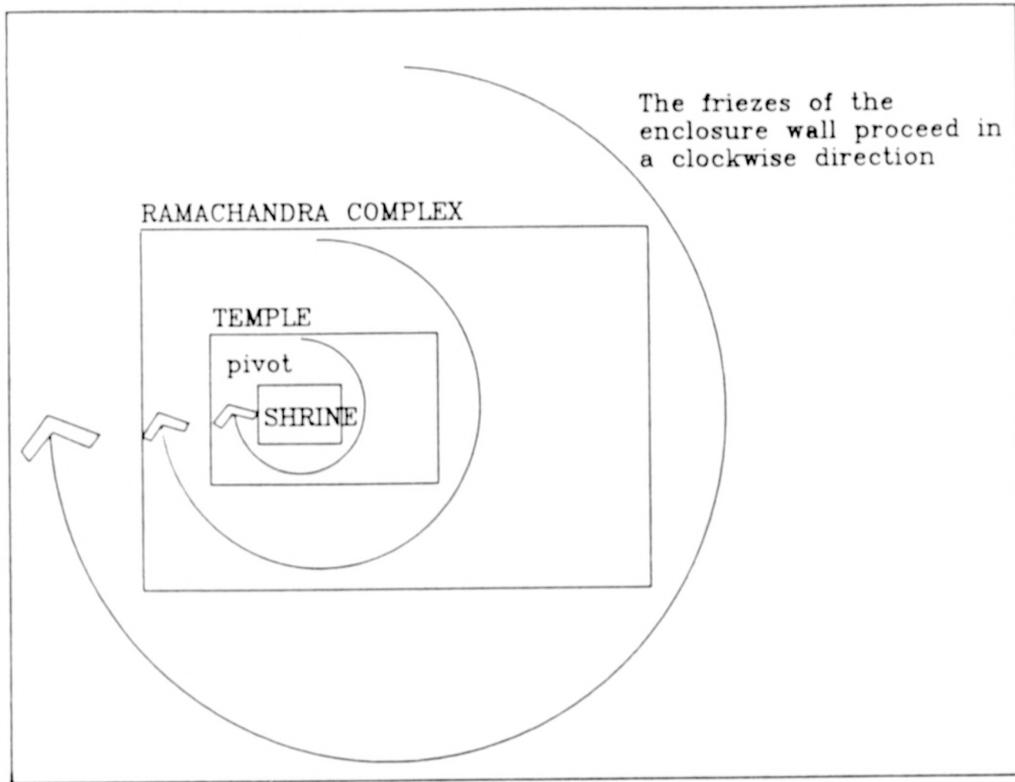
pivot

SHRINE

Figure 34: Vijayanagara shows circumambulatory routes in almost all scales: The principal shrine, the temple, the temple enclosure, and the Royal Centre. The principal shrine is the pivot of these clockwise movements

Perhaps the most important issue at this scale between Ostia and Vijayanagara is the orientation of the temples. Though Vitruvius and other architects clearly approved the east-west orientation rule, most temples at Ostia are oriented north-south except the one dedicated to Hercules, located 200 meters west of the forum

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on the north side of Via della Foce, in a roughly triangular area reserved for the religion. However, many temples located along the public roads seem to follow one of the Vitruvian exceptions to the rules for orientation, which recommended a temple to face the public road, if it is located along one (Figure 35).
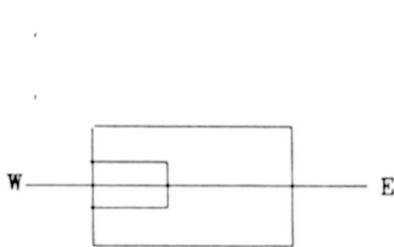
Vitruvius approved the east—west orientation for temples
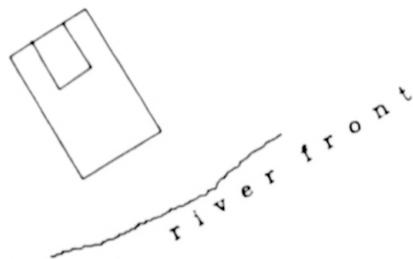
Vitruvian exception rule explained that the cella of the temple located by the river front should face the river itself
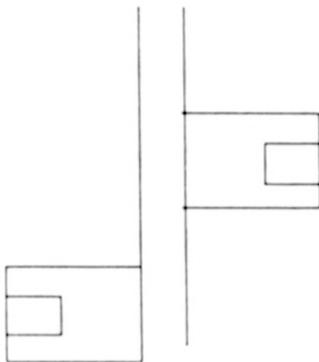
Vitruvian exception to the rule for east—west orientation of temples recommended a temple to face the public road if it is located along one.
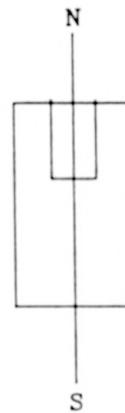
The Capitolium and most of the temples at Ostia face north—south

Figure 35: Orientation rules according to Vituvius

Vitruvius clarified the reasons for the temples to face western quarters: that it would enable the worshipers at the altars to face simultaneously the sunrise and the statues in the temple, while the temples facing the public pathways and streets will enable the passers-by to have a view of the shrine and pay their devotions face to face. Another Vitruvian exception to the rule explained that the cella of the temple located by the river front should face the river itself. Incidently, none of the temples face the Tiber directly at Ostia and there are no sources available that may clarify the exact reasons. One possible interpretation for such discrepancies is that the orientation of the individual temples may have been dictated by their respective cults, just as the ancient Etruscan temples are conceived to have been, although the majority of the temples at Ostia are believed to have followed the traditional cults of the Roman religion. The Capitolium, the most significant religious building for Ostia, is positioned in the northern quarter of the Forum facing the open space to the south, where the altar is located. A survey of the major temples inside the Fora of other Roman cities finds the predominant orientation to be north-south. At Rome both the original and imperial Fora and the major temples inside, are oriented north-south or at least close to it. Thus it can be concluded that orientation of the temples was mostly dictated by the layout of their respective settlements and that the final decision were left to the individual cults. Nevertheless, the Forum and the capitolium at Ostia, being the symbolic

focus of the whole city were conveniently oriented north-south, just like the other settlements.

Unlike Ostia, the temples at Vijayanagara strictly face east. In fact, the east-west orientation was and is considered auspicious in Hindu religion, even the traditional domestic structures are expected to have their main entrance from the eastern quarter of the site. Almost all temples have similar characteristics described in the previous chapter, with their predominant deep view from their east entrance. At least the following characteristics of the temples are repeated at other scales at Vijayanagara: (1) orientation, (2) separation of function, (3) area given to, and relative position of each function (Figure 36). The most highly ranked figure is positioned to the west and faces east. Lesser ranked figures whom the former receives, are positioned to the east and face west. In temples, intermediary figures, the priests, are positioned and moved between the two. The space given to the figure of high rank is small relative to that given to his intermediaries, devotees and entertainers. The former is also positioned well to the west of the centre of the building complex containing the building. The chief figure is male and his female consort is placed in a separate structure which is to the west. The inner household is similarly to the west. Thus one may postulate a distinction between the public world of the chief figure, which mostly involves men and is situated to the east, and his private world, which mostly involves women and is located west. In his public life, the chief figure faces toward the

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east. This is the major distinction which allows one to draw the functional axis along the north-south axis of the temple complex.

NORTH

PRIVATE WORLD	FUNCTIONAL DIVISION Divine's private world located on the west of the centre, mostly involved women Divine's public world located on the east of the centre mostly involved men	PUBLIC WORLD
Highest ranked figures		Lesser ranked figures — the Priest, the devotees and entertainers
Chief figure is Male		Involves both male and female
Figure faces east		Devotees approach from west and north
Female consort is placed in a separated structure on the north—western area		
Smallest Space for the divine		

SOUTH

CHARACTERISTICS FUNCTIONAL SEPARATION, ORIENTATION, AND RELATIVE POSITION OF EACH FUNCTION

Figure 36: Characteristics of temples repeated at other scales at Vijayanagara

Both at Ostia and Vijayanagara, the major axis of the temples mostly followed the principles of symmetry, while the minor axis was usually based on functional distinction (Figure 37).

OSTIA   VIJAYANAGARA
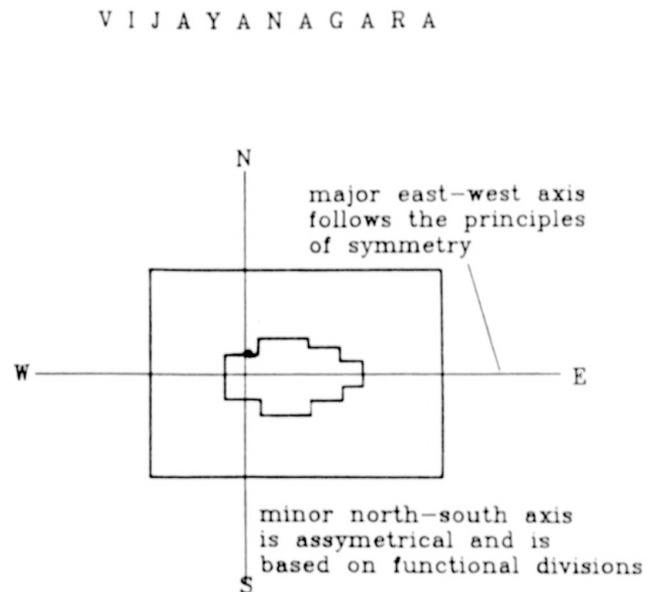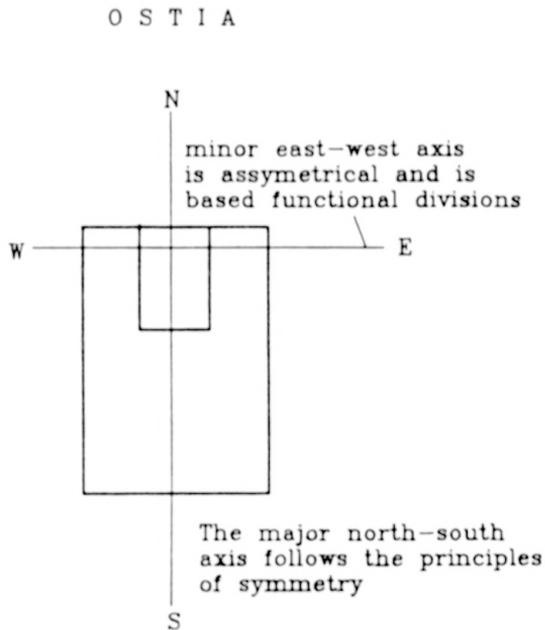
Figure 37: Major axis of the temples mostly followed symmetry and the minor axis was usually based on functional distinction

At Ostia, the actual temple structure is mostly located to one half of the longitudinal space - the Capitolium is positioned on the northern quarter of the Forum. This typical Roman temple is usually not freestanding, but connects at the back with the boundary walls of an axially organized space, which it dominates. Whereas the major axis is longitudinal and symmetrical, the minor axis is lateral

and asymmetrical. This minor axis that could be identified near the altar of the temple complex, was based on the functional characteristics. On the side where the principal gods are located, the activities were mostly private with a one-to-one correspondence with the individual worshippers to gods, while the other side where the public open space is located was where the ritual group events took place, thus making it a public activity space. This layout of the most conservative of all the Roman buildings, the temple therefore repeats the basic scheme of Roman space, that is considered as a cosmic image. A similar axial system is identified for temples at Vijayanagara, with the additional quality of direction. Mostly the temples occupied the majority of space within a temple complex. Stationed in the middle of the complex, the temple encloses several colonnaded spaces which are axially organized. Whereas the east-west axis is highly symmetrical and longitudinal, the cross axis that runs north-south, is functional. This axis divides the private world where the god is seated and the public world where the worshippers had their ritual activities.

However, at both Ostia and Vijayanagara the symbolic centre of the whole complex was not necessarily the intersection of the two axes, instead, the principal shrine is considered as the nucleus where the divine vertical axis can be drawn. At Ostia this fact is suggested by the high podium, the tall structure and mostly vaulted ceiling for the temple structure. At Vijayanagara various enclosed spaces of the temples follow a typical hierarchy: the entrance hall, the pillared hall, the

antechamber, and the chamber for the God, that create a deep view from the entrance to the principal shrine. Even the daylighting plays a role in emphasizing the principal shrine as a visual focus of the whole complex. The first stage, namely the entrance hall is entirely open to the sky, followed by the pillared hall the second stage, is stepped up and semi-enclosed, in the sense that it is colonnaded and roofed but has no walls. The third stage is the antechamber which is totally covered and borrows light from the pillared hall. This hall is also narrower than the pillared hall and is the end of the worshippers walk, after which the priest takes over and acts as a messenger by helping the devotee with his offerings to the god. The final stage is the chamber for God, the smallest of all the spaces which is enclosed from all sides. Usually this space is lit with candle light or similar sources. At both Ostia and Vijayanagara the principle shrine is recognized as the symbolic focus of the whole complex while the crossing of the axes acted as the physical centre of the activities. Thus the meaning of this symbolic centre is more affiliated with a symbol of 'authority' and 'divinity'. This centre is also related to as the first vicinity of the unknown cosmic world, directly connected by an invisible vertical axis, from where the assumed microcosm was organized, and from where the divine power is distributed. This symbolic centre is also believed to have acted as a nucleus of the known entity, where 'man' meets 'god' or 'the profane' encounters 'the sacred'.

The Forum at Ostia and the Royal Centre at Vijayanagara. If form and meaning were most intensely experienced in the temples, the expansion of form to larger scales, communicated by the extension of the axes, and partly by the repetition of spatial pattern, arguably expanded the experience of religious meaning to these scales as well. That the larger scales and their surrounding landscapes in both societies had sacred qualities is not in question, but specifically it may be suggested, that particular qualities of religious experience in sacred buildings were projected to larger scales and these qualities were to a large extent, specific to each culture.

At Ostia, the basic concept of a Roman temple with its open space in front of the temple proper coincides with the concept of a typical Forum, where the various built structures surround the central rectangular open court, as both the Forum and the Capitolium share the same open space. The axis of the Forum and the Capitolium thus harmonize with each other to achieve resonance of religious experience. This in turn leads to the transformation of the meaning of form and space from one scale to another, regulated by the organizing north-south axis. Derived from the basic purpose of their existence, both the Forum and the Capitolium play important roles in this transformation. The Forum, the symbol of a developed city, holds complex institutions, such as market-place, place of political assembly, law court, a setting for public spectacles, a place for business meetings, etc., while the Capitolium served as a focus for the religious life of the

community. So the quality of this space was controlled by two major forces; one, the religious focus of the Capitolium and two the dignity of the forum to display the ruler's authority. Simplicity in design was a basic Roman rule to achieve integration and uniformity. Many characteristics of the Forum and the Capitolium seem to merge (Figure 38).

Characteristics of FORUM ⟵ merge ⟶ Characteristics of CAPITOLIUM
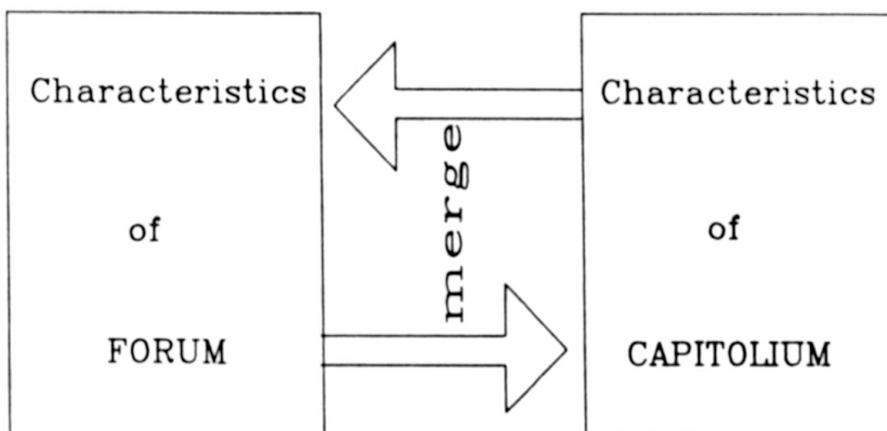
At Ostia the symbolic characteristics of the Capitolium and the Forum is integrated and therefore the meanings of centrality and axiality can be combined to prove the Romans intention to achieving the cosmic symbolism

Figure 38: The Forum at Ostia show a functional integration of the Forum and the Capitolium

The altar where the major activities for the Capitolium took place is the centre of the Forum, where otherwise the normal activities of the Forum took place. Thus the meaning of the centrality and axiality at the scale of the Forum cannot be isolated from that of the Capitolium, on the other hand, it can be combined to prove the true and simple intention of the Romans to achieve the cosmic symbolism of the spatial image.

Whereas the system of meaning associated with centrality and axiality for the Forum at Ostia merge with that of the Capitolium, the Royal centre at Vijayanagara possess different levels of social complexity. Though the north-south axis drawn through the Ramachandra temple can be extended to the Royal centre, the properties of the axis at these two scales are quiet complementary. The north-south axis at both the temple and the Royal centre scales are based on the functional properties (Figure 39).

This in turn established a unique system of social and religious meanings. At the temple scale, the relationship between the divine god and his followers is demonstrated with a combination of a symmetrical east-west and a functional north-south axis. At the Royal Centre however, this relationship is acknowledged by asymmetrical and functional boundaries created by the extension of the north-south axis. Though the temple scale is dominated by the east-west axis, the Royal centre is dominated by the north-south axis that is extended from the Ramachandra Temple. An extension of the east-west symmetrical axis of the Ramachandra

East—west axis is symmetrical and is the major
axis for the Ramachandra temple

East—west axis is asymmetrical and minor axis
when extended to Royal centre

N

ROYAL CENTRE

TEMPLE

W ——————— E
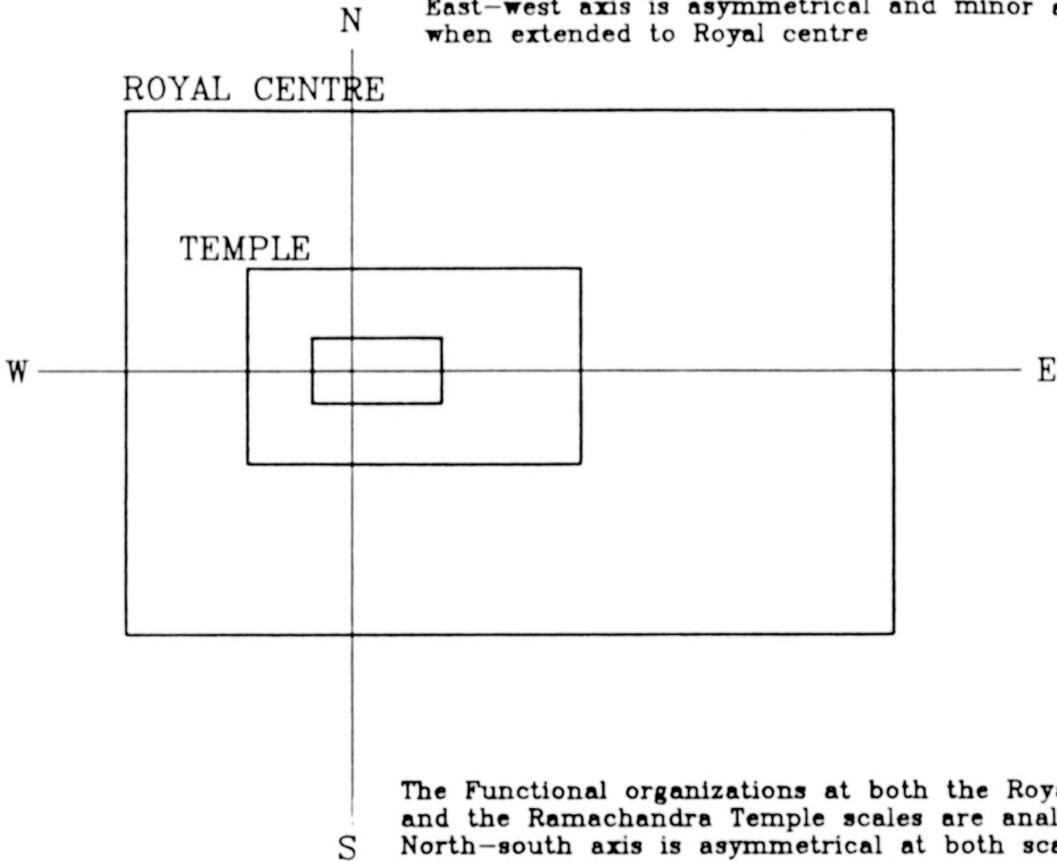
The Functional organizations at both the Royal Centre
and the Ramachandra Temple scales are analogous.
North—south axis is asymmetrical at both scales.

S

Figure 39: At Vijayanagara the N-S axis at the temple and the Royal Centre scales are based on the functional properties

Temple is not clear, however traces of alignment of important monuments have

been found by archaeologists. In any case, a symmetrical axis at the Royal centre

scale is clearly out of question. In this sense, the predominant symmetrical

properties of the temple scales remains de-emphasized at the Royal centre. The

various enclosures that cluster the Ramachandra temple clearly prove the

distinctive purpose of their existence. The ones on the eastern quarters of the north-south axis were associated with the residence of high ranked officials concerned with the martial life of the city. Fritz termed this area as "the zone of royal performance", while the enclosures on the western quarters, associated with royal and ceremonial living were termed "the zone of royal residence". This asymmetrical axis is therefore a significance of inequavalence and reciprocity between the divine, the imperial, and their supplicants. Nevertheless, the principal focus of all these enclosures - the Ramachandra Temple - still remains predominant, acting as the nucleus of the Royal activities. What is more interesting is the similarity between the layout of the Ramachandra Temple and the Royal Centre - the physical organization of activities. The north-south axis of the Royal Centre is located towards the western quarters of the geometrical centre, just like the Ramachandra Temple. Also the activity zones mentioned above for the Royal Centre are similar to the temple, the private zone is located to the western side while the public zone is positioned on the eastern quarters of the geometrical centre. In this sense, the layout of the Royal centre is analogous to the Ramachandra Temple though it does not show any symmetrical qualities.

Unlike the temple scale, the orientation of the major axis at this scale for both Ostia and Vijayanagara is north-south (Figure 40).

FORUM

ROYAL CENTRE

The major north—south axis is
symmetrical

The major north—south axis is
asymmetrical
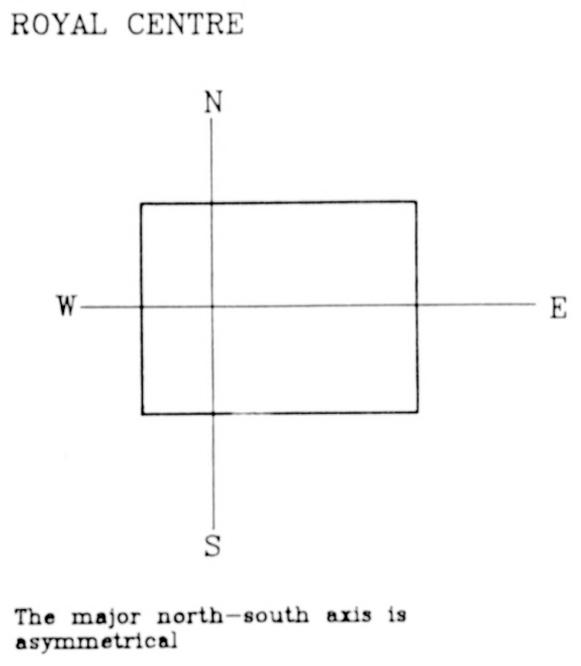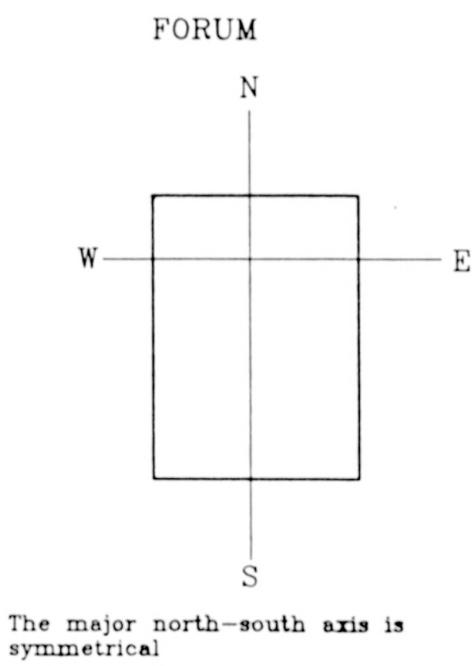
Figure 40: The Forum and the Royal Centre are oriented N-S

Only the quality of these axes and their respective reasons for orientation are
different. Whereas the north-south axis is almost typically symmetrical for the
Roman Fora, a survey of the south Indian cities shows that the north-south axis
may not be typically asymmetrical at this scale or even the scale of the city as a
whole. Examples such as *Madurai*, a typical south Indian city, had symmetrical

properties at all scales for both east-west and north-south axis. It perfectly followed a *sastric* model of the cosmic city, explained elsewhere in previous chapters. Thus it can be suggested that though Vijayanagara does not have such perfectly followed symmetry at all scales due to the topographical conditions of the site and other practical reasons, it still maintained the axis through asymmetry. The axis and the centre was more symbolic unlike sastric models.

Whereas the concept of a Forum is typical of all Roman cities, the Royal centre at Vijayanagara is unique for its existence. Various activity spaces were enclosed due to security reasons - gateways, watch towers and high fortification ring walls are some of the evidences. No two enclosures are identical or even similar in any geometrical sense, indeed they seem to be highly organized according to the local conditions and reasons. However, these enclosures, at least the ones immediately surrounding the Ramachandra Temple, are organized in such a way that the transformation of space from one enclosure to the other is hardly noticeable. This does not mean that all the enclosures open up to one another. Nevertheless, the Ramachandra Temple is an enclosure within itself. It does not belong to any of these enclosures. The enclosures are arranged in such a way that they embrace the Ramachandra Temple from all directions naturally creating a defensive boundary and also making it the predominant centre of the cluster of enclosures. This is similar to the general concept of a sastric model, where the centre of the whole city, the temple, will be embraced by the various structures

and pathways. Thus in fact, the plan of the Royal centre follows certain principles of the sastric models. The meaning of centrality and axiality of the Forum at Ostia and the Royal centre at Vijayanagara have their self explanatory reasons based on their respective degree of social complexities.

The Settlements. It has already been suggested that both at Ostia and Vijayanagara, the north-south axis of the previous scales can be further extended into the settlement as well. However, symbolic elements and other paraphernalia identified at these settlements, that support this extension are paradoxical. At Ostia, it is best explained by its history of origination. A typical Roman Castrum was first constructed primarily to defend the coast. It was a regular rectangle in plan with its two usual major roads - the *decumanus* running east-west and the *cardo* running north-south dividing this castrum basically into four quarters. The rest of the development was based on this simple pattern, and the deviations were explained only on incidental and practical grounds. However the reason for such patterns does seem to be more than just a mere practical site setting. The development of the town of Ostia indicates that the Romans were conscious of a certain conspicuous order of living. First, the original castrum with its rectangular wall and two major streets running perpendicular to each other can be explained with Norberg-Schulz' (1975) theory of how Romans consecrated a place, which was discussed in the previous chapter. The Roman castra and city - and Rome

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itself- are based on the same model. The centre was initially a pit, according to W. Muller (1961:36), and later developed into a forum. The cardo, running from north to south, represented the axis of the world, and the decumanus, the course of the sun from east to west. The centre represented the world called the *mundus*. Thus the Forum was usually located close to the cardo-decumanus intersection, the symbolic centre of the town, as an axially organized rectangular space and within this was positioned the capitolium, the nucleus of the settlement.

Unlike Ostia, Vijayanagara does not seem to have clear records on the origination of the city, however there are various theories of how the city was founded. The most ancient settlement identified is a place called *Anegondi*, located on the north-east side of the latter city of Vijayanagara, across the Tungabadra river, which dates back to around the early eleventh century A.D. Anegondi basically had a Hindu origin and was well established much before the foundation of the capital, in spite of the Muslim invaders. Anegondi is still a residence of a local royal family claiming direct descent from the rulers of Vijayanagara. The town is contained within its own circuit of walls, entered through gateways. Nearby, on the banks of the river, a series of temples and sculptures - some of which are as early as the tenth and eleventh centuries - proclaims the holiness of the site. West of the town is the fortified citadel, elevated on rocky hills. Here are seen fortifications and defensive gateways, as well as the remains of other civic structures (palace, barracks?, stores). North of

Anegondi are several lines of walls with protected entrances; in effect, these constitute the extreme north boundary of the capital. However, there are hardly any traces of a 'prototype' at Anegondi, for the later Vijayanagara, except for the orientation of the temples and the concept of fortification as a military defence. It is believed therefore, that the fortification walls of the capital was one of the first steps to building the city (also there are other reasons for the origination associated with the history and mythology which is beyond the scope of this topic) along with the royal houses at the Royal Centre (Robert Sewell 1962). Further developments apparently are comparable to various *sastric* models that was discussed in the previous chapter, with the temple as the centre of the whole settlement. The sastric models define a spatial framework for the human society, and place more highly ranked groups (in the sense of ritual purity, not temporal control) closer to the centre and in more auspicious directions from the centre, for instance, the place of the king is defined usually near to but not at the centre. Similar to this is the city of Vijayanagara with the Royal centre as the focus of the settlement, where the Royal activities took place, with the Ramachandra temple as the nucleus of its concentrated hierarchy. In this sense, it is very difficult if not impossible to suggest that the settlement originated from the centre, unlike Ostia. In fact, it is possible to clarify that Vijayanagara went through a reverse process to achieving the same principles of centrality and axiality in an entirely different social level. The centre of the city, like the city itself, developed in time: the

sacred centre was considered as the centre until the Royal centre took shape, since the sacred centre contains some of the major temple complexes, still in use, which date close to the origination of the city itself. Fritz and Michell (1984b) in their proposal of three possible phases in the process by which the Vijayanagara kings attempted to define their relation with the sacred, acknowledge this developmental sequence (the details were given in chapter 3). Thus it can be interpreted that the centre of the settlement, the Ramachandra temple and then the Royal centre, were chosen to be placed to the west of the geographic centre of the settlement, in perfect harmony with the seat of the Royal enclosures and then of the divine god seated to the west of the geometric centre of all Vijayanagara temples.

Undoubtly similar are the reasons for the existence of the visual alignments that emphasize the existence of predominant axes both at Ostia and Vijayanagara. These again seem to have descended from the identified models of each settlements namely, the Etruscan towns for Ostia and the Sastric models for Vijayanagara. Like the temples at Ostia, the settlement itself was perhaps considered for a deep view from all major intersecting streets. This property is highly suggested in the Etruscan towns which according to Boethius (1978) was inspired by the Etruscan temples and the rules about places for auguries and auspices. The intention to create such things are not clear, however it can be mentioned that the various festivals and ritual ceremonies demanded such an environment, for instance the triumphal march of the troops after a victorious Roman war, or a welcome parade

for distinguished guests, etc. The point were the *cardo* met the river at Ostia was a landing place of importance where the emperor or any visiting dignitary would land. The road from the river to the Capitolium was laid out on broad, straight lines and was flanked by brick porticoes. Porticoes lined almost all major street which were monumental and added a sense of focus. The various elements that contributed to the establishment of the axial image of the city, can thus be considered as a part of the system which established and maintained divine and imperial authority.

Whereas the elements supporting the axial systems at Ostia are directly projected, Vijayanagara offers very scanty evidences for the same. Though the sastric models display very regular street systems, Vijayanagara due to its topographical and other site conditions, does not conform to any particular sastric model, instead there are several features that seem to have developed from all these models. For instance, the north-south axis extended into the urban core, the sacred centre and the region to the north by a number of features associated with *Ramayana*, the Hindu epic depicting the feats of Ramachandra (Rama), one of the incarnations of Lord *Vishnu*. This axis is extended northward from the enclosures by the north road which eventually leads to the base of the Matanga hill. This hill is visually aligned with the Ramachandra temple, which is about 1.5 km due south. Standing in the middle of the enclosed pillar hall of the Ramachandra temple one could see the hill through the north doorway. Visual alignment ensured order in

planning, like the temple and the Royal centre the city possess deepview characteristics to emphasis axiality. This visual axis was believed to be an access for the divine power from God Ramachandra to the surrounding landscape. Also the two significant natural features, the Matanga and the Malayavanta hills which play a major role in this visual alignment, are associated with mythical events of the *Ramayana* epic, especially those episodes in which Rama enlisted the aid of the local monkey tribes to regain his abducted wife. Whereas the visual axis at Vijayanagara was mostly associated with various religious and mythical events, the visual axis at Ostia is more related to the symmetrical principles and formal order. However, the reasons for the existence of the axes for both these settlements potentially aim at achieving divine order.

Similar are the arguments for the emphasis of the centre of these settlements (Figure 41). At Ostia as mentioned earlier the town evolved from the centre - the castrum. The seat of the divine within the cella of the capitolium, where the symbolic horizontal and vertical axes meet, naturally appeared to be the symbolic focus of the major developments of Ostia - for instance the road systems always recognized the forum as the centre, the forum is approximately the geometric centre of the town and the capitolium was intentionally made higher than any other structure surrounding the forum so as the forum is visually omnipotent. At Vijayanagara, however, the concept of centrality was asserted in a totally different manner. First there are several potential defensive structures such as the fortified

OSTIA
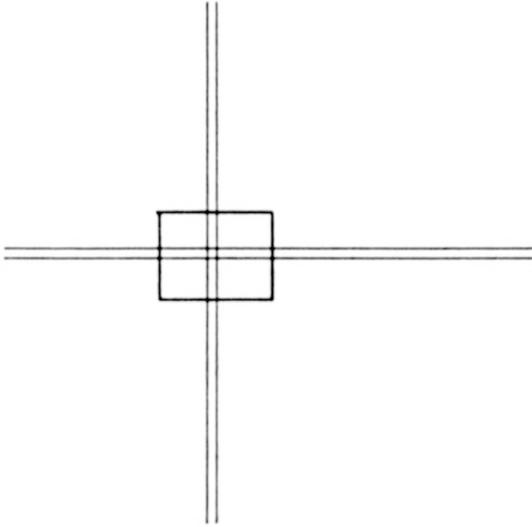
VIJAYANAGARA

At Ostia the symmetrical principles and the concept of intersection of the two major roads — the decumanus and the cardo emphasize centrality
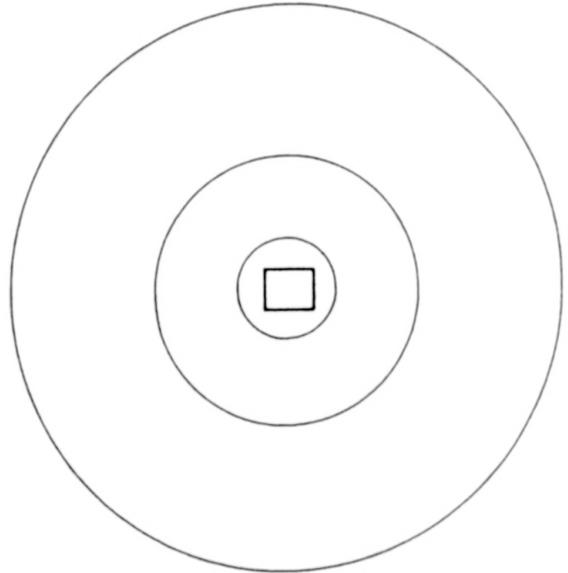
The concept of rings of fortification walls and the ring roads identified within the Royal Centre emphasize centrality

Figure 41: The concepts of centrality

wall and enclosures that seem to focus the centre. At least seven concentric fortified walls were identified, that provided military security to the Royal enclosures within which is located the symbolic centre of the settlement, the Ramachandra temple. Next, the major roads and pathways identified, form a network of ring roads leading to the Ramachandra temple. This complex patterns

of movement in the urban core, reveal a sequence of roads which circulate around the royal centre on the east, south and west. Most roads converge on enclosure-I adjacent to the Ramachandra temple. Also the temple is approximately the geographical centre of the city. Part of the mythical associations are governed by the religious belief on the clockwise movement around the divine. Narrative reliefs depicting the events of the Ramayana circulate around the walls of the Ramachandra temple. Circumambulatory movement through the enclosure containing the Ramachandra temple leads from the zone of residence to the zone of performance. On a larger scale, a sequence of ring roads passes around the royal centre, linking residential areas of the urban core (east) to temples in the western half of the sacred centre. Thus the centre though not geometrically significant, was organized on the basis of the various mythical believes, supported with other physical elements that emphasize the same.

Also observed both at Ostia and Vijayanagara is the consistency in retaining the original concepts for the meanings of centrality and axiality during different stages of development in time. The earliest traceable settlement at Ostia - the castrum, was the foundation for the two streets crossed at the centre, where eventually the Forum was located. To the east one of these streets continued toward Rome as the *Via Ostiensis*. To the west, it split in two just outside the castrum gate. One road, now called the *Via della Foce*, led northwest to the mouth of the Tiber; the other led southwest toward the seashore. At the southern

gate it connected with a road leading in southeasterly direction toward the town of *Laurentum*. Sometime under the period of Sulla, the city received a new set of walls, but other than that the basic layout of the city remained the same through out history with the castrum area retained with only minor changes. On the contrary, this rectangular castrum gained more importance through different stages to become the perfect symbolic centre: the changes in the basilica, the forum and the streets leading to it, etc. Thus even in the final stages of development during the third century A.D., the basic concept of centrality and axiality was retained in spite of several construction overlays. So was the case with Vijayanagara through different phases of growth. Only the city did not grow from the centre like Ostia, instead the centre came into being in a latter stage. However, it could be mentioned that the basic concept of the orientation of the temples, namely east-west, came in very strongly, that the Royal centre and the city itself made to face east with the symbolic centre on the west of the geographic centre, though it is difficult to sort out the development of the identified axis and centre chronologically, since the archaeological evidences are not yet clear.

The difference between the organizing geometries of these settlements narrate important difference in the system of meanings associated with the Roman and Hindu cultures that in turn emphasize different levels of social complexity. At the same time they may illustrate differences which characterize different levels of social complexity. The north-south axis at Ostia defines social equivalence

through symmetry while at Vijayanagara it defines inequavalence through asymmetry (Figure 42).

OSTIA

VIJAYANAGARA

East—west axis usually implied functional distinction

The north—south axis defines social equivalence through symmetry

East—west axis usuall implies functional and social distinction

The north—south axis defines social inequivalence through asymmetry Like Hindu Sastric models, Vijayanagara can be divided into zones — the Sacred Centre and the Royal Centre

Figure 42: Meaning of N-S axis at settlement scale

Ostia like other Roman cities was not planned according to the social status, though there are regular and irregular functional zones developed during different periods. The north-south axis was mostly emphasized through symmetrical

properties while the east-west axis usually implied functional differences. On the contrary, like various Sastric models, Vijayanagara does present various socially and functionally designated areas such as the Sacred centre, where most of the major temple complexes are located and the Royal centre which can basically be divided into the zone of residence and the zone of performance. Whereas the north-south axis mostly emphasized functional properties, the east-west axis projected the relation between the various social elements of the society. For instance, in a temple next to the divine positioned at the centre facing east was the priest followed by the supplicants or servants of the surrounding elements in hierarch of the social status. Both at Ostia and Vijayanagara the geometric systems organizing the north and south zones of the east-west axis do not depend on symmetrical properties. Where as at Ostia the east-west axis mostly symbolized functional differences, at Vijayanagara it stands for both functional and social distinctions. However, in both cases the activities contained in these features are complimentary mostly through the contemporaneous working of differentiated functions.

Finally the plan of each settlement relates it and its inhabitants to the cosmos. That a north-south axis organizes space in each settlement is not accidental; it summarizes many of the directly observed phenomena of the heavens.

On it lies the zenith; and the sun has a kind of symmetry as it rises toward and descends from this point in its daily movement. Moreover, the rest of the heavens appear to pivot around this axis, in particular its northern extension through the pole (north) star (Fritz 1985b).

In order to compare Ostia and Vijayanagara to the so called "cosmic city", one needs to know about an ideal version. Because an accepted typology of the sacred city is lacking it will be necessary to first propose a tentative one before preceding with the comparative materials. Paul Wheatley (1971) suggested two basic types of such sacred cities: "the cosmic sacred city" and "the city of local sacrality". The first striking element in the cosmic sacred city is its alignment with the directions of the universe, its orientation. Whichever element was at the top of the hierarchy, we may see in the orientation, axiality and centrality of these cities an expression of the desire to conform to the pattern of the cosmos (Paul Wheatley 1971). Cities such as Ur, Rome, Peiking, Babylon, etc., are some of the outstanding examples. There is another type of sacred city that Wheatley classified, which differs in nearly every respect from the type from the one just delineated, known as "the locally sacred city". It is clearly represented by religious places such as Mecca, Banares and Jerusalem, although the case of the latter is made extremely complex by its long and checkered history, as well as by its connection with three major contemporary faiths. In these cities there is no recognizable geometry of form, no evidence of overall planning, no relationship to a sacred king, no orientation or axial way (Paul Wheatley 1971). What really

characterizes these cities, is its sacrality of place: the man-made and natural objects it contains are sacred; the very ground of the city is holy. The cosmic sacred city requires a highly structured society, usually ruled by a king who plans the city and supervises the sacral functions proper to it. The locally sacred city may conceivably have a royal figure and a hierarchical society, but it is not essentially related to the nature of the city and sometimes in fact militates against it.

Ostia and Vijayanagara can well be compared to the sacred cosmic city model since there exists the very basic qualities described above in them. Nevertheless, there are certain issues concerning centrality and axiality found different at Ostia and Vijayanagara explained else where in this chapter. These differences can be explained mainly on the cultural disparity and sometimes in the differences in the period of existence. While differing in many respects, Ostia and Vijayanagara do share a fundamental conception of the universe and their relation to it. They perceive an order marked by the placement of stars and the regular movement of sun, moon and planets and therefore draw directions and points of reference - a cosmography, which manifests a sacred power, a reality to which all cosmic cities respond in remarkably similar ways. The result is what one can compare with what Wheatley called a "cosmic religion" and the royal cities built by cultures sharing this conception of the world are what was termed as "cosmic cities".

To summarize some of the general features of Ostia and Vijayanagara: (1) Orientation, which is the attempts to lay out the city in accord with the lineaments of the cosmos. The way Ostia accomplished this quality, with its axial streets - decumanus and cardo, leading toward the four directions, and Vijayanagara through its homology of facing east. This axial or processional way articulates the relationship between god, priest and ruler. (2) Symbolism of centrality. Contact with the cosmic power was strongest at the symbolic centre of the settlements and flows outward, becoming ever more diluted as it reaches the boundaries of the known world. Thus the centrality was rather monumentally emphasized through a temple of the god. This independent expression of centrality was a function of the sacred ruler and his relationship to the gods. (3) Throne of the sacred king. The city is inevitably the throne of the sacred king of Ostia and Vijayanagara, though there is evidence for the rulers positioned near the centre. In terms of social order, one always finds in these settlements a highly structured society ordered in a pyramidal fashion. From the top of the pyramid comes planning of the cities, for these are not the result of spontaneous organic growth. They are clear geometric forms, not just urban agglomerations. The top of the pyramid is also the channel of divine power (Figure 43). The ruler was ultimately responsible for the good or ill of the whole national family. (4) These earthly settlements have a model in the heavens, in structure and also in function, for the earthly hierarchy imitates the divine pattern of government. "The cosmic city is not just

h e a v e n

a totallity
  – a house
  – a temple
  – city
  – empire

divine power

axis mundi
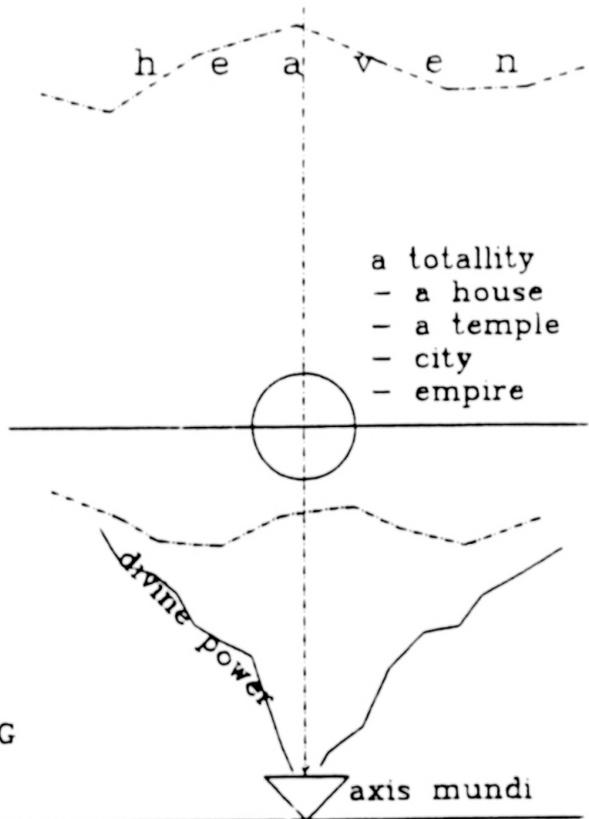
"SUPER NATURAL POWER REACHING
THE EARTH AT THE SACRED AXIS
OF THE WORLD WAS DIFFUSED
TO THE FOUR QUARTERS THROUGH
COSMOMAGICALLY SACTIONED
CHANNELS, SO THAT THE PRE-
ORDINARY DISPOSITIONS OF
SYMBOLIC SPACE WERE MAINTAINED
AND HARMONY PREVAILED IN THE
REALM" (PAUL WHEATLEY 1971:451)

north

west   east

south
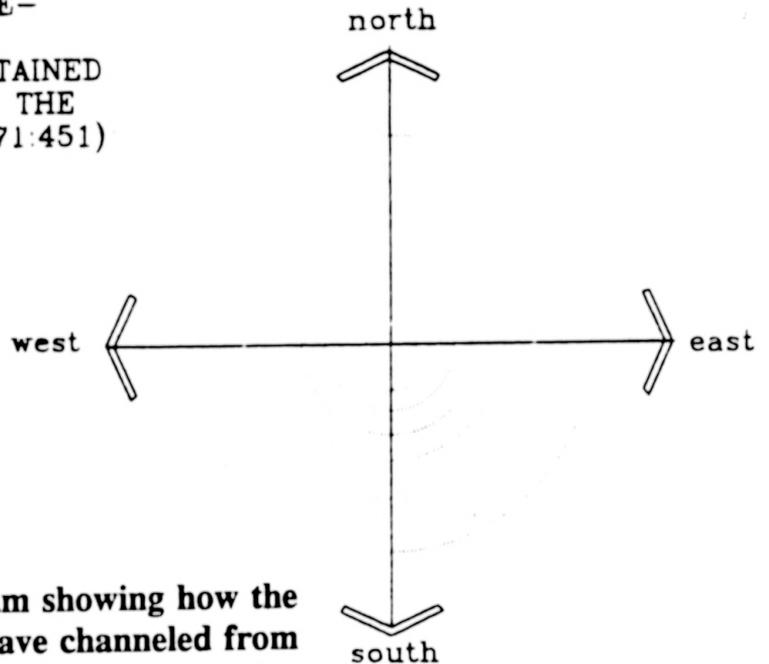
**Figure 43: A schematic diagram showing how the
divine power was believed to have channeled from
the heaven through the *axis mundi* and disposed
from the symbolic centre of the settlements**

a city among others, but the city, node of upper and lower worlds, centre and representative of the terrestrial sphere" (Paul Wheatley 1971:179). There is direct reference to a celestial city in the stars. It is appropriate to propose that both Ancient Rome and India had its model in the heavens, its *templum* or sacred area reflecting Jove's templum in the sky (Mercia Eliade 1954). Nevertheless it can be said, that the orientation and order of these earthly settlements reflects the alignments of the cosmos. The sophisticated knowledge of Hindu and Roman astronomy is well known. It is even reasonable to propose that the planners of each settlement envisioned the organizing axis as a part or manifestation of the larger axis which organized the perceptible universe. Both Ostia and Vijayanagara may well have been understood as earthly embodiments of the universe - as "heavenly cities" which manifested divine power and order through the social forces which organized economic, social and religious life.

What these shared factors point to is not utter confusion in the types discussed above, but something about the nature of symbolism.

There is a sense in which symbols seem to be quite objective, suggesting the same or very similar realities to people of widely divergent cultures. Why this is so is not easy to explain, but it is unquestionable that it is so. A city, however its genesis be explained, is both a reality and a symbol, and as such has a rather objective capacity to represent or manifest something to man. That natural symbols such as trees, rocks, heavenly bodies can suggest the sacred is somehow less surprising than the similar ability of things made by human hands such as temples, cities and houses. But all such symbols strain, as it were, to the full limit of their capacity to represent, and in the study of cities one can see this process of extension in action (Paul Wheatley 1971: 191-192).

Though it is difficult to summarize all these issues discussed, one can perhaps attempt to sum up the full range of meaning of the two settlements. The word would be "order". When planned, the city at its best epitomizes a society's understanding of and striving for cosmic and human order. Because of the drive to organize the world, cities are landmarks of greatest importance. Any culture describes its major city as the centre of the world (world navel, *caput mundi*, cosmic mountain, passage to the underworld, gate to heaven) not so much out of natural egotism or racial superiority as out of the desire to contact the sacred sources of power. Perhaps the similarity of symbolism in the two settlements of Ostia and Vijayanagara is because they are two expressions of the same desire for the power and security of the sacred: in the case of Ostia through close physical proximity and in Vijayanagara through close imitation of various models.

CHAPTER SIX: INTERPRETATIONS

The two major topics that were posed at the beginning, which were the driving force to identify and compare the meanings of the symbolic characteristics at Ostia and Vijayanagara, opens up many specific issues for answers. First, the possibility of understanding meanings of built forms from the material remains of extinct societies or settlements and second, whether meanings of these settlements can be compared with each other. The first, as acknowledged by John M. Fritz (1984), is a theoretical issue of broad scope with methodological implications. The second is perhaps a narrow question concerning possible similarities between apparently different cultures. A comparison of meanings of symbolic characteristics namely centrality and axiality between Ostia and Vijayanagara sheds light on how the above topics can be considered from one point of view. In both settlements it is possible to propose some general characteristics of activities relevant to centrality and axiality, which occurred in buildings and larger spaces. It is highly desirable that these propositions be elaborated and tested against other aspects of the material record of each settlement and other ones as well. Even at this stage however, these suggestions underline similarities and differences between Ostia and Vijayanagara. The differences are due in part to their unique cultural origination - the language of pattern and meaning, and to the level of social and economic complexities. What is more important is their

similarities that require an elaborate description to understand the common denominator behind the meanings of the studied symbolic systems.

Settlements such as Ostia and Vijayanagara possess very strong relationship between their respective art and religion. Each tend to be highly culture specific, but most of its manifestations, at least the ones analyzed through this study seem to have similar reasons for their existence. Sometimes these reasons and their respective manifestations are generalized and abstracted, while the others are unmistakably specific. It is perhaps too early to even draw conclusions, and interpretations made through this research are considered tentative. It seems, therefore, appropriate to consider some of the directions which appear promising within this approach, assuming that a full understanding of these sites will ultimately depend upon the work of others as well, in particular, historians and archaeologists. Nevertheless, this study proves the validity of its approach and perhaps further understanding of these two cultures is truly possible by analyzing centrality and axiality in other environmental levels as well. From the propositions made through this research, it can be mentioned that the validity of the approach to the comparison made by John M. Fritz (1984), can possibly be one of the authentic ways to understand the spatial meanings of the extinct societies. But the propositions made in this study need to be refined and tested against the other aspects of the material records of each of the settlements compared. For instance, meanings for axiality and centrality can be viewed from the human behavioral

point of view. This perhaps needs intensive knowledge on the behavioral patterns of the settlements. Knowing more from the historians and epigraphist would enhance the understanding of the daily life of these settlements. Like Frank Brown understood, it is the ritual of the space that gave birth to the respective ritual structures (Frank Brown 1976). Therefore further analysis on this topic shall be directed towards the behavioral studies of the two settlements, that will certainly enhance this comparison. Then the conclusions of such studies shall be made in reference to the outcome of the verified conclusions of this study. A possible derivation of a common denominator for the cross-cultural studies can be made possible that can serve as a reference material for the shared sacred philosophies and beliefs between Hindu and Roman culture.

APPENDIX: CHACO CANYON AND VIJAYANAGARA: PROPOSING SPATIAL MEANING IN TWO SOCIETIES - JOHN M.FRITZ - An Abstract

In this essay, Fritz posed two broad questions: (1) How can meaning be understood from the material remains of the settlements of extinct societies? and (2) Are the meanings embodied in the settlements of a tribal society and an imperial state comparable? In neither case do written records of the period provide information about the meanings that these settlements had for their inhabitants.

Dr. John M. Fritz, Ph.D in Anthropology, is an Associate Professor at the University of New Mexico and was Senior Fellow of the Graduate Centre, City University of New York, 1981-1982. He has conducted field research in India, Europe and North America. During the 1980 s he began his investigations on Vijayanagara and published many scholarly articles on his project. Fritz, who has tremendous exposure to Chaco Canyon and Vijayanagara, believed that culture - related assumptions and behavior occurred at several spatial scales. It is in this sense that the two settlements are compared. How can fruitful comparison of the spatial meanings of these settlements be made given the considerable differences between their forms and between the societies which lived in them? He suggested that they are comparable because, in both cultures, what may be termed the "principle of spatial similarity", interrelated meaning and form at

several spatial scales. This principle applies when particular material forms at one scale are organized into relationships that also organize different forms at other scales. Not only is the underlying spatial geometry, but also the underlying relation structuring the meaning associated with the geometry is similar at each scale. The geometry of meaning and the geometry of space, as well as the relation between the two, are repeated and therefore similar. Furthermore, when those who experience the geometry of space at one level associate these with meaning at other levels, "symbolic resonance" occurs (John M. Fritz,1984). Symbolic resonance implies holism, i.e., the organizations of space and meaning are interactive. The meaning of the aggregate of spatial levels - the system of meanings - is greater that a simple "sum" of the associations of any particular level. As a further consequence, the entire system of meanings and its material symbols are potentially implied whenever one experiences spatial order at any level.

Fritz discussed the spatial structures for settlements at Chaco Canyon and Vijayanagara and proposed the meanings which these structures bore for their inhabitants. He observed that spatial similarity organized space in both settlements and the meaning of the similar pattern could be inferred. In comparing the two settlements, he also proved that although their structures shared certain characteristics, such as directionality and axiality, others were particular to each culture and its level of social complexity.

Fritz followed a case study method for his comparison, consisting of three phases. First, proof of spatial similarity between the two sites chosen for this comparison was required. Second, a case study of Chaco Canyon, its spatial pattern, and important details of the three spatial scales and their meanings was prepared. Third, the process of phase 2 was repeated for Vijayanagara. He then compared the meanings of the two settlements. One of the interpretations of this comparison is as follows:

The plan of each settlement relates it and its inhabitants to the cosmos. That a north-south axis organizes space in each settlement is not accidental; it summarizes many of the directly observed phenomena of the heavens. On it lies the zenith; and the sun has a kind of symmetry as it rises toward and descends from this point in its daily movement. Moreover, the rest of the heavens appear to pivot around this axis, in particular its northern extension through the pole (north) star. The sophisticated knowledge of Hindu astronomy is well known; and there is growing evidence of astronomical observation and recording at Chaco (Williamson et al 1977). It is reasonable to propose that the planners of each settlement envisioned the organizing axis as a part or manifestation of the larger axis which organized the perceptible universe. Both Chaco Canyon and Vijayanagara may well have been understood as earthly embodiments of the universal - as "heavenly cities" which manifested divine power and order through the social forces which organized economic, social and religious life (Fritz 1984; 18 & 19).

In his final conclusion, Fritz discussed the importance of further research. For each of the settlements compared, he was able to propose general characteristics of activities which occurred in buildings and larger spaces. These propositions were been derived principally from behavioral patterns that characterize cultures which have evolved from the settlements.

Fritz strongly recommends, therefore, that these propositions be elaborated and tested against other aspects of the material record of each settlement. His propositions permitted the notation of some of the differences and similarities in these cultures. He concluded that the differences are due in part to separate cultural origins (the language of pattern and meaning) and to their degree of economic and social complexity. Their similarities reveal the ways that societies use principles derived from observation of nature to communicate the society's relation to the sacred.

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COMPARING MEANINGS OF CENTRALITY AND AXIALITY AT THREE
SPATIAL SCALES: OSTIA AND VIJAYANAGARA

by

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AN ABSTRACT OF A THESIS

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ABSTRACT

The purpose of this research is to understand the similarities and differences in meanings interpreted for centrality and axiality between the settlements of Ostia and Vijayanagara. Ostia, the Roman harbor town founded in the fourth century B.C., is located at the mouth of the river Tiber, fifteen miles from Rome. Vijayanagara, founded in the mid-fourteenth century A.D., as the capital of the last great Hindu empire of south India, is located on the southern bank of the river Tungabhadra. Centrality and axiality are two major symbolic principles observed in at least three spatial scales at these two settlements. John M. Fritz (1984) compared spatial meanings of two settlements: Chaco Canyon and Vijayanagara, based on the theory that the culture related assumptions and behavior in each society occurred at several spatial scales. Fritz's work formed the basis for this thesis. The approach to the comparison of Ostia and Vijayanagara is similar to that of Fritz's work, except that one of the sites was Roman instead of American Indian. The comparison was conducted on three spatial scales: the temple; the Forum at Ostia and the Royal Centre at Vijayanagara; and the settlement.

This analysis revealed without doubt that there are more similarities in the meanings of centrality and axiality than differences. This is partly due to the very strong relationship between the state of art and religion of both these settlements. The desire to be closely associated with the divine 'cosmos' explained most of the physical manifestations that are similar at Ostia and Vijayanagara. Thus the basic

underlying principles of centrality and axiality at Ostia and Vijayanagara remain remarkably constant. This thesis will serve to appreciate how sacred philosophies and beliefs shared by Roman and Hindu cultures were transformed into design principles and elements.