MADURAI, INDIA: THE ARCHITECTURE OF A CITY

by

Julian S. Smith
B.A., Oberlin College
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Signature of Author
     Department of Architecture, January, 1976

Certified by .
     Professor Donlyn Lyndon, Thesis Supervisor

Accepted by .
     Michael Underhill, Chairman, Departmental
     Committee for Graduate Students
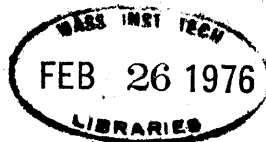
MADURAI, INDIA: THE ARCHITECTURE OF A CITY
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Submitted to the Department of Architecture on January 21, 1976
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The ancient South Indian city of Madurai is undergoing a gradual shift
away from a relatively cohesive, medieval ordering towards a new and unpre-
dictable flux of social and physical forces. This study is an attempt to
explore the nature and impact of that earlier ordering.

The point of reference is the city as a spatial environment, a built
landscape. Within the complexities of the dense three-dimensional fabric
exists a significant, imageable pattern - most importantly, an expanding
series of concentric streets about a central temple complex. Nowhere vi-
sible as a whole, the organization is experienced only gradually over time.
What is striking is the use of a fairly simple underlying geometry to
express important attitudes toward collective dwelling.

In its generic sense, such a pattern is a 'vāstu-maṇḍala', a diagram
(maṇḍala) of ordered existence (vāstu). The relationship between the
vāstu-maṇḍala and the building process is explored in the Śilpa-śāstras,
traditional Indian treatises on architecture and town planning. Their
prescriptive rituals suggest that the sacred geometry of the maṇḍala is
essential to establishing a secure claim within an active landscape. The
process is more a relaxation than an intensification of religious energy,
a cautious secularization, in fact, of the sacred environment.

In terms of town layout, the careful geometry of the imbedded maṇḍala
does not necessarily translate into a literal ground plan. As a diagram,
it explains rather than represents. Madurai is not a city of straight
lines and right angles; a basic pattern is here distorted and enlivened by
local events and sources of energy. But topologically a significant inter-
relationship of parts remains intact. The fluid quality is best expressed
in the festival processions, which delineate the maṇḍala over the course of
the year. As the important mode of celebrating corporate identity, they
reconfirm the underlying form and its use as a principle reference for the
community's sense of itself in space and time.

Thesis Supervisor: Donlyn Lyndon
Title: Professor of Architecture

The city of Madurai is as a lotus
flower that springs from the navel
of Lord Vishnu. The streets of the
city are the petals. The <u>koyil</u> at
the centre is the thalamus within
the petals.

<div align="center">-Paripādal</div>

4

TABLE OF CONTENTS

PREFACE

My experience in Madurai began with a two-year stay in the late 1960's. I was there not to observe the city as such, but as an exchange teacher and a student of South Indian classical music. My fascination with the city as an architectural landscape was pursued later through studies in traditional India city planning. A travelling fellowship enabled me to visit the city again briefly in January and February 1975.

In May 1971 the city was raised to the status of a Corporation. In most instances such an event is little more than an arbitrary indication of population growth. But in the case of Madurai it comes at a time when the city has in fact reached a point of critical momentum in a much deeper, more gradual shift. A new structural indeterminancy is appearing as an influx of new energy obscures existing patterns. It is these older patterns and their wider design implications that are the focus of this study.

Chapter I
SPIRIT OF PLACE

The city of Madurai rises from the wide plains of the Vaigai River
valley in very southern India. It is one of the oldest cities in the
world; its history covers some two and a half millenia, and during much
of that time it has been an important cultural and political centre.
The famous epic poem Silappadikāram, set in about the 2nd century A.D.,
speaks of four great South Indian cities of that time: Urandai the
luxurious, Vanji the strong, Puhār the guardian of the sea, and Madurai
of the high ramparts. Even then, Madurai was considered ancient, and
it alone of the four has survived to the present.
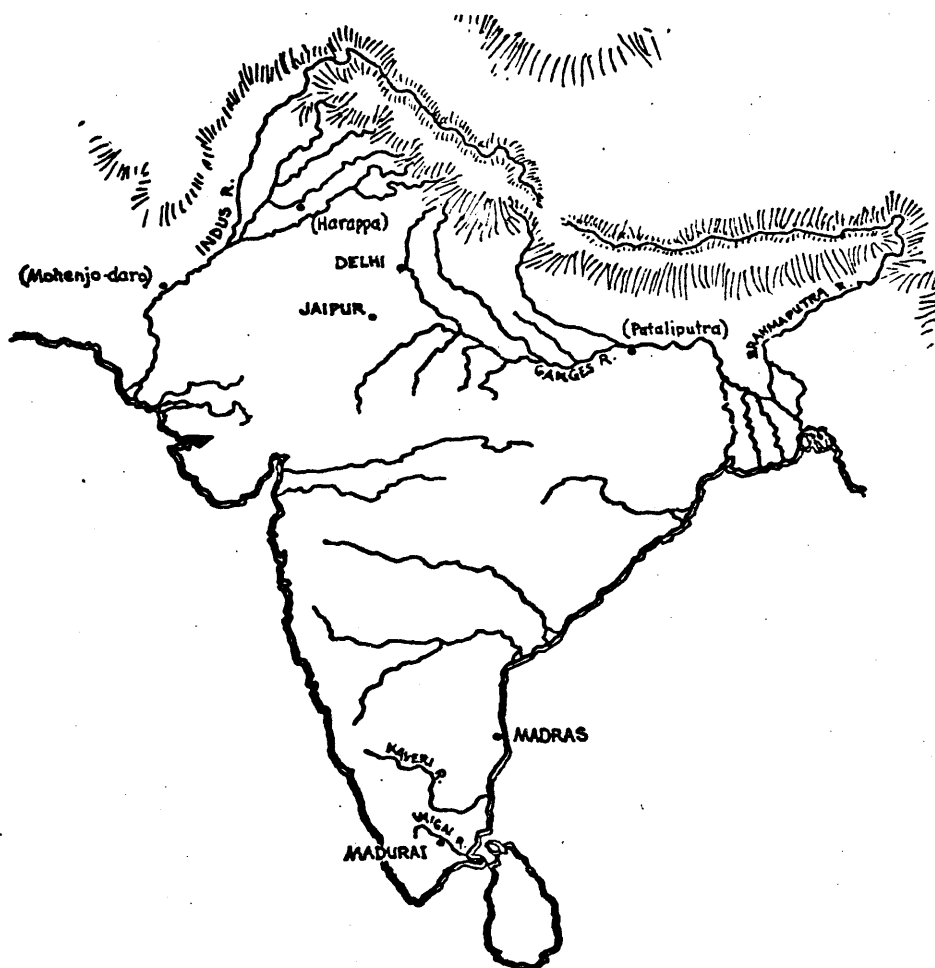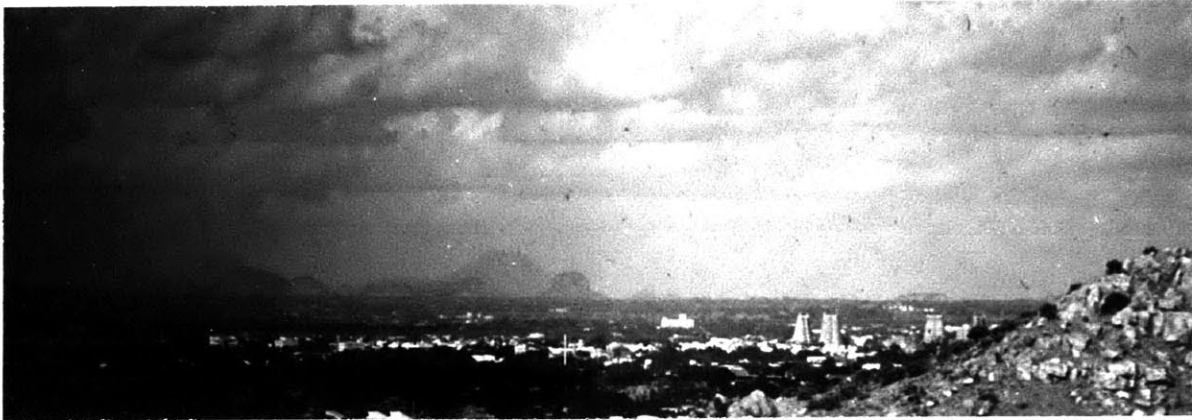
Not only has it survived; it has preserved a character and vitality
that make it a remarkable place quite apart from its longevity. The
dominant central core, in particular, maintains that rare quality, usually
found only in much smaller towns, of presenting itself as a single inte-
grated phenomenon; most cities of this size seem much more arbitrary as
aggregations. And yet Madurai has a rich diversity within it, and a sur-
prising latitude for local interventions and distortions.

The spirit of a place, its genius loci, can be related to the nature
of its physical environment. But the environment is significant not only
directly, but also in terms of the concepts it embodies. The architectural
historian Christian Norberg-Schulz, in studying the notion of genius loci
at the urban scale, has identified two distinct, though related, levels of
analysis which can be applied to the built environment: sense of orienta-
tion, a matter of spatial structuring; and sense of identification, a
question of relating to the physical articulation of the space.[1] This

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[1] Ideas developed in a series of lectures at M.I.T., Spring 1974.

division is useful in suggesting consideration of the city as a basically two-dimensional field, on the one hand, conceptualized in some diagrammatic way by the inhabitant, and as a three-dimensional environment on the other, experienced directly, physically; the latter a specific vehicle for carrying the more general information of the former. The three-dimensional pieces of the built landscape permit local involvement at the individual scale; the larger more two-dimensional organization at work allows shared values, or a sense of community, to emerge.

The interactive quality of these two scales seems to go a long way towards determining the spirit of a place. Many cities lack the ingredients for positive associations with the environment at either level. On the one hand, the three-dimensional forms may be devoid of interest, and unable to support a sense of local intimacy; on the other hand, the larger schematic organization may either not exist at all in any perceivable way or, even if it does, may not carry with it the sense of shared values acting themselves out. The most common example of this latter is the use of an arbitrary hierarchy or geometry, without shared meaning - an unfortunate trademark of many 'planned' cities. Where such a geometry, however, does address the collective use of space, and local architectural expression does the same for the individual use of space, a significant interaction can occur.

It is such an interaction that makes Madurai so rich. The general ordering here comes out of a long tradition of city planning in India. Surprisingly few towns exhibit as much of the diagrammatic structure suggested by the ancient treatises on the subject. Just as interesting, however, is the deformation and distortion of the diagrams in their prac-

tical application to a particular time and place. It is this coming-
to-life in a three-dimensional reality which is the test of the diagram's
inherent value.
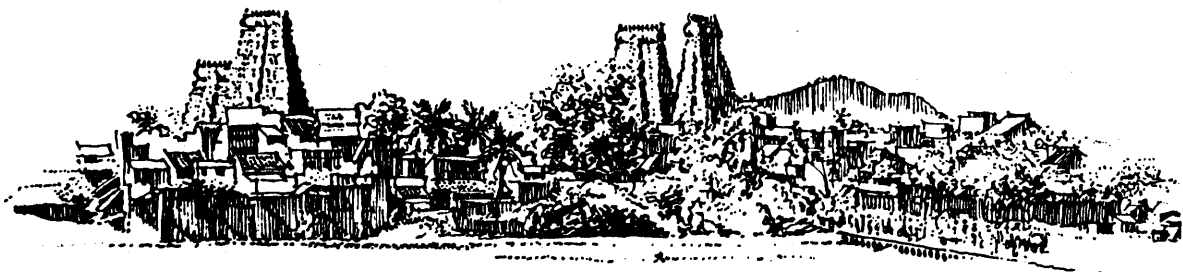
Madurai from across the Vaigai River

Chapter II
THE DEVELOPMENT OF TOWN PLANNING

The characteristic settlement of early Aryanized India was the village. It is within these autonomous units that there seems to have developed the important social patterns and ideologies which affected even those cities which did arise because of large-scale trade and commerce.[1] Their organization typically involved individual homesteads tightly clustered about a central open space, identified by a large spreading tree.[2] The shaded area

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[1] For a fuller discussion, see Amita Ray, Villages, Towns and Secular Buildings in Ancient India, especially Ch. II. Also E. B. Havell, in The Ancient and Medieval Architecture of India.

[2] A village well might also dominate. An early Jain text categorizes villages as 'open bowls' and 'inverted bowls'. The former have a central well, the latter a central tree. Ray, Villages, Towns, p.28.

served as a meeting place for the village elders; the spatial significance of the tree as a central _axis mundi_ attached a sacred dimension to the elder's dispensation of secular justice. In time, many villages erected a _sabhā-griha_, or public hall, which again might acquire both religious and secular functions.

Most villages were open; although some had a surrounding wall, in general security was provided by separate walls around each family's compound. These large individual homesteads consisted of separate huts and sheds around a central courtyard. The encircling mud wall had an important gateway on the entrance side; richer houses might have two or even three courtyards. Some homesteads existed independently off in the countryside.

A significant pattern was a segregation of people belonging to different occupational groups into separate villages. There are specific trade distinctions, villages of hunters, carpenters, weavers, fishermen, and so on, and more general caste-groupings, of brāhmaṇas, śūdras, chaṇḍālas and others. The villages inhabited by those following specific crafts, industries or professions seem to have been more cohesive physically and socially than those that were purely agricultural. In larger villages where different occupational and professional castes congregated, segregation was maintained. This accounts for the emergence of different _pāda-s_ (quarters) in large settlements, each _pāda_ consisting of people belonging to the same caste or profession.

In the closing centuries B.C., national and international trade and commerce expanded greatly. Localization and specialization of various crafts and industries developed. Powerful guilds began to appear. All

this was reflected in a major growth of towns and cities, and a new empha-
sis on the life of the city-dweller. Kautilya[1] in his Arthaśāstra (c. 300
B.C.) treats villages as primarily production centres of food, subjected
to the economic and political exploitation of the towns. He recommends
that they be peopled primarily by foreigners and sudras, the peasant caste.
But his plans for an ideal city are based on the notion of distribution by
caste and occupation, thus in effect creating a city by aggregating village
forms.[2] The town-planning tradition in general maintains this characteris-
tic pattern.

* * *

The other source of a prototype for city layout can be seen in the
tradition of durga-sanniveśa, or the planning of forts. As opposed to the
village, which might grow slowly as the accretion of individual homesteads,
the notion of a fortified encampment, structured by walls and gates, implied
a more integrally planned unit. This sense is reinforced by the fact that
a prime impetus for the appearance of cities was the establishment of cen-
tres of royal power. These naturally adopted the defensive characteristics
of a fort, and at the same time provided an opportunity for concious inter-
nal layout. Conquering kings often deserted the existing capital in favour
of new construction both for security reasons and as a display of power.[3]

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[1] Kautilya was a minister in the court of Chandragupta, the Mauryan
Emperor.

[2] For the details of Kautilya's organization, see B. B. Dutt, Town
Planning in Ancient India, pp. 149ff.

[3] See Dutt, Town Planning, pp. 38-42.

With constant warfare between small principalities, these cities constituted glorified military camps. They might quickly attract commerce and trade, however, and so would assume the qualities of any urban centre. In some cases the royal fortress was not coextensive with the city, but rather a citadel in the centre. However, there then seems to be a secondary city wall, often with its own resplendent gates and turrets.

There were cities, of course, which owed their existence to strategic positions in terms of trade, local industry, or the like, such as Kāveripaṭṭinam (Puhār) at the mouth of the Kāveri River. As these became concentrations of wealth and power, they would erect fortifications and perhaps attract royalty. The same might be said of some of the important religious sites. But the military encampment, in its expanded role as administrative centre, seems to have provided an impetus for the development of a science of town planning. A portion of Kautilya's Arthasāstra, mentioned above, constitutes one of the first real treatises on planning, and in essence it describes a well-fortified royal capital, methodically zoned with the palace at the centre. Some have taken it to be a description of the existing capital, Pataliputra, a magnificent place by all accounts.[1] But the latter, despite its major fortifications, was more loosely organized, an aggregation of villages joined together by spacious parks (the sacred groves) and stately avenues.[2] The ideal city is marked by stricter control, a clearer expression of the king's power imbedded in the landscape.

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[1] The account of Megasthenes, Greek ambassador to the court of Chandragupta, is summarized in Dutt, Town Planning, pp. 323ff.

[2] Havell, Ancient and Medieval Architecture, p.24.

An interesting but elusive question is the legacy of the town-planning expertise of the Indus Valley civilization. This very early urban culture flourished from about the third millenium B.C. to the middle of the second, when it was destroyed by Aryan invaders. The rest of Indian history is then a complex intermingling of Aryan (or Sanskrit) and pre-Aryan influences. North India became highly Sanskritized; the South retains a lot more of the pre-Aryan, particularly Dravidian, element. With the script of the Indus Valley still undeciphered and its achievements seemingly destroyed, it has remained pretty much a marginal chapter of Indian history and civilization. But there are connections, linguistically and racially, between the great culture complex embracing both Mesopotamia and the Indus Valley and the early Dravidian culture of South India.[1] The word pura which occurs in Vedic literature seems to mean a place of shelter or residence surrounded by strong walls or ramparts. It is derived from the Dravidian (and Sumerian) ur, and Aryan literature associates pura-s with the pre-Aryan inhabitants.[2] Indra, the chief Aryan god, is celebrated as the destroyer of the pura-s.

Mohenjo-daro and Harappa, the two most impressive of the culture's sites so far uncovered, are walled cities which share a conscious layout not found in Mesopotamian centres.[3] The street pattern is rectilinear and oriented to the cardinal directions. The major streets create distinct residential areas; these are further subdivided by side streets set

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[1] K.A. Nilakanta Sastri, A History of South India, pp.62-65.

[2] Ray, Villages, Towns, p.47.

[3] See Andreas Volwahsen, Living Architecture: Indian, pp.8-10.

at right angles, and small footpaths separating the individual courtyard homesteads. A citadel containing not a palace but rather communal facilities and perhaps a religious centre occupies one of the western sectors.

* * *

From about the 6th century onwards, there begin to appear Śilpa-śāstras, technical treatises on the arts. In them can be found extensive rules and rituals pertaining to architecture and town planning. Their complexity, particularly in their comprehensive schemes of classification, indicates that they are an attempt to rationalize existing practices as well as simply prescribe a coherent system. One consistent element is the use of a vāstu-mandala, the initial ordering of any building site according to a sacred geometry. There is a control exercised here which has a parallel in the earlier schemes of Kautilya and others for royal capitals. But in the Śilpa-śāstras, the intimation is of the primacy of sacred authority. A proper distribution in accord with the established pattern of deities is essential. This tradition may relate to the apparent role that a deity seems to assume in some of the South Indian temple towns, of adopting the characteristics of a supreme ruler. The mandala underscores sacred authority in a secular landscape. B. B. Dutt, in a survey of the town planning tradition, suggests the possibility of two schools:

> It is the authors of the Śilpa Śāstras who have made their folk planning hinge upon padavinyāsa [distribution according to the mandala] , whereas Kautilya, Śukrāohāryya and the author of the Agni Purāna do not refer to padavinyāsa... Their method of allocating sites and folk is therefore quite independent of padavinyāsa and the various classes and professions have been represented in their ideal towns in quarters selected only with reference to the site of the royal mansions. The latter authorities all belong

to Northern India. Do we get here a glimpse of two
schools, Northern and Southern?[1]

The more interesting question seems to be of development over time. There
may be a non-Aryan legacy of city-design,[2] which in the Śilpa-śāstras is
given an Aryan gloss, the maṇḍala establishing a field of Vedic deities in
non-Aryan landscapes. This process perhaps does occur primarily in the
South; various of the Āgamas, associated primarily with religious develop-
ments in South India, can be considered early Śilpa-śāstra treatises. The
Kāmikāgama, for example, devotes 60 of 75 chapters to town planning,
architecture, and sculpture, in terms very similar to the Mānasāra Śilp-
śāstra.[3] As regards the question of 'political' authority in relation to
town layout, the early focus on a secular ruler infused with quasi-divine
status seems to shift to an eventual accumulation of secular roles by a

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[1]Dutt, Town Planning, p.149n.

[2]The names Maya and Visvakarma, to whom many of the texts are attri-
buted, represent non-Aryan personalities. The sthapati or archi-
tect seems to have been a lower-caste person, although infused
with priestly status for some of the rituals. See Ray, Villages,
Towns, p.47.

[3]See P.K. Acharya's comparison of these and other texts in Indian
Architecture According to Manasāra Silpa-śāstra. N.V. Mallaya,
in Studies in Sanskrit Texts on Temple Architecture says of the
Agamas, that "from their contects they appear to mark the
genesis of the new Hinduism, which is the outcome of the fusion
of Āryan and indigenous concepts. In the character of the writ-
ings, the hand of the priestly authority is fairly discernible.
The impact of Āryan philosophy on the class of Āgamic literature
is clearly the work of the priestly class" (p.104). The late
Śilpa-śāstras have moved into an even more priestly domain; they
deal primarily with temple construction, and the sthapati has
lost his former status in the various rituals. See Mallaya,
pp.88ff.

central deity.[1] The texts, with their use of the vāstu-maṇḍala, would

help rationalize such a transformation.

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[1]As Nilakanta Sastri says of this period, "the duty of protecting
society was cast by theory on a special class, the Kshatriyas"
(History of South India, p. 164). Ultimate protection, however,
is cast by this same theory on the deities, whose power is medi-
ated by the Brahmins. At the time of the early texts, there is
an easy interplay of palace and temple. The same word (prāsāda)
is used for both, and the rules of construction are pretty much
the same, each based on a series of concentric courts. For rem-
nants of this interplay, see Carol Breckenridge, "Madurai
Sthanikars: Mediators of Royal Culture" in The Madurai Temple
Complex, A.V. Jeyechandrun, ed., pp.205-210.

Chapter III
THE VĀSTU-MANDALA

The use of a ritual diagram in architectural enterprises can be traced to a religious understanding of the nature of dwelling. The struggle to live securely, to 'reside' in the midst of unpredictable forces and events, is not easy. A village settlement is regularly contrasted with <u>aranya</u>, the forest.[1] The process of claiming space in the landscape, of controlling natural/supernatural forces for the purposes of inhabitation, is in fact a kind of secularization. There is the need for demystification, desacralization of a sort; the cosmic forces must be recognized and their powers harmonized before a person can relax into an ordered existence. The connotation of mystic diagrams today is quite the opposite, a sense of concentrating religious energy in an otherwise blank field. But our starting point is an enveloping secular environment. In the India of the Śilpa-śastras, the given was a sacred landscape, and secularization a cautious necessity. Within a sacred landscape, secularization is a religious process. The creation of profane space coincides with the erection of a temple,[2] and is not a separate issue.

<u>Vāstu-vidya</u> is the general term for architecture, the art or science of building. 'Vāstu', built form, comes from the verb <u>vas</u>, to dwell. It is often translated simply 'abode', "the place where men and gods reside."[3]

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[1] Ray, <u>Villages, Towns</u>. pp.24-25.

[2] profane, lit. "in front of a temple", (<u>pro fanum</u>).

[3] <u>Mānasāra Śilpa-śāstra</u> III, 1.

It involves the notion of conscious intention.

> Brahmā, before creating this world,
> Created vāstu.[1]

The most important dimension of vāstu is its ordering of the ground. The notion of building, of architecture more generally, is implicit once the primary step of a structured site is achieved. The four dimensions of vāstu are dharā, ground form; harmya, building; yāna, conveyance; and paryaṅka, couch. Of these,

> The ground is the chief object for all purposes.
> The mansion and other buildings are truly called
> dwellings because of their connection with the
> (chief) object (the ground).[2]

In the Ṛg Veda, the earliest literature of the Aryans (dating from the latter half of the 2nd millenium B.C.) frequent mention is made of the Vāstupati or lord of the abode. In several hymns, and in the Atharva-Veda, the celebration of the Vāstupati is referred to: a firm post is the focus of the rituals. Ceremonies relating to the fixing of a central post at the commencement of architectural activity are a tradition that is still in evidence among tribal people such as the Nagas.[3]

More elaborate rituals related to house building are outlined in some of the Sūtras. Amita Ray records the following description from the Sāṅkhyāyana Grihyasūtra (of about 600 B.C.):

> When a man wishes to have a house built, he draws with
> the branch of an udumbara tree three times a line round

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[1]D. N. Shukla, Six Fine Arts, p.258.

[2]Mānasāra Śilpa-śāstra III, 5.

[3]Ray, Villages, Towns, pp.112-113.

the selected spot, with the following incantations:
"Here I include the dwelling for the sake of food...
this branch of the immortal one (the udumbara tree is
a recognized fertility symbol) I erect, a stream of
honey, promising wealth. The child, the young one,
cries to it; the cows shall flock to it, the increas-
ingly fertile one." He then puts an udumbara branch
besmeared with ghee into the pit which has been dug
for the right post. The same verse is repeated for
the erection of the left door post. The prayer is
not only for wealth and happiness, but also for pro-
tection from calamities and destruction, which is as
follows: "May the malevolent ones not reach thee."
In another verse the master of the house in intro-
ducing and placing the fire in the hearth recites:
"Do no harm to us, to the old nor to the young; be a
saviour to us, to men and animals." The posts in the
different directions are supposed to signify differ-
ent meanings: "The two posts to the east, truth and
faith; those to the south, sacrifice and gift; those
to the west, strength and power; those to the north,
the brāhmana and kshatra." The pinnacle of the house
is named as Fortune while the firm post is called the
Law.[1]

Here the definition of a central post is expanded to the actual ritual

enclosure of space, both in setting boundary posts and in drawing a

circle on the ground. This brings us to the pivotal concept of the

vāstu-mandala.

Mandala, literally 'circle', can be more generally interpreted as

any enclosed figure. In architecture, it becomes the geometrical diagram

which defines vāstu. The drawing of the vāstu-mandala constitutes the

initial ordering of space. The visual form confirms a creative act; it

is the "record of an architectural rite".[2] Over time the ritual and the

diagram become increasingly complex. But still the purpose is to delimit

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[1]Ray, Villages, Towns, pp.116-117.

[2]Stella Kramrisch, The Hindu Temple, p.7.

the swirl of cosmic forces, to create and enact their conditional aspect
in space and time. The simplest maṇḍala in the texts, with no subdivisions,
is called sakala, 'commensurable'; it has set up measurable limits. The
continuity of the vāstu-maṇḍala may be more or less direct in terms of a
three-dimensional realization; its real continuity is perhaps better
realized in rituals which re-enact its delimitation of space. This corre-
spondence will be elaborated later.

* * *

The most detailed use of these diagrams is in the prescriptive
rituals of the Śilpa-śāstras.[1] The Mānasāra Śilpa-śāstra, one of the
oldest and most complete (c. 6th Cent. A.D.), can serve as a reference.
It opens, like Vitruvius, with the qualifications of an architect and the
classifications of architecture. It also describes in detail the system
of measurement, and careful instructions for making measuring sticks,
rods, and braided rope. Vāsukī, the serpent-god, is the deity of the
measuring rope, and Brahmā is the presiding deity of measurement.

With equipment in hand, the next step is the selection and prepara-
tion of a site. A gentle slope to the north or east is prescribed. Con-

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[1]These texts, mostly found on palm-leaf manuscripts, are gradually
becoming available through study and translation to those such as
myself unable to read Sanskrit. P.K.Acharya translated the Mana-
sāra Silpa-śāstra in 1927; K.Vāsudēva Sāstri has summarized the
Viśvakarma Vāstuśāstram, and B.B.Dutt gives portions of the Maya-
mata in Ancient Town Planning. Other available texts I consulted
were later examples dealing more specifically with temple archi-
tecture: Rāmacandra Kaulācāra's Silpa Prakāśa, Bhubanapadīpa (Bose)
and Tantrasamuccaya (Mallaya). I was unable to locate a copy of
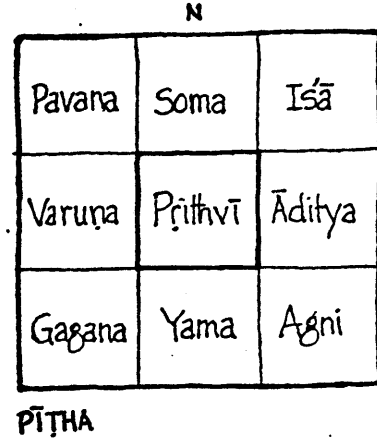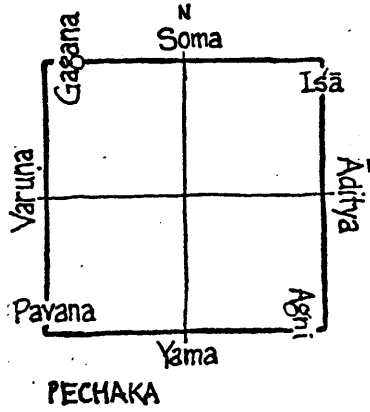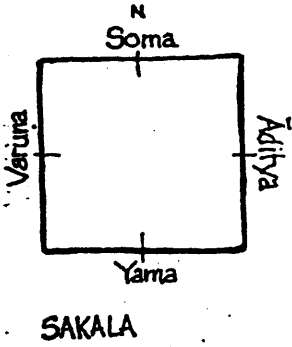D.N.Shukla's study of the Samarāṅgana-sūtradhāra.

tour, colour, smell, sound, taste and touch are considered. Observations of existing flora and fauna are to be carefully interpreted. A significant initial ceremony includes constant repetition of the mantra, 'Let all creatures, demons and gods as well, leave this place; let them go elsewhere and make their abode there'. Then seeds are sprouted in water and planted. When the crops have matured, and the flowers are in bloom, cows are brought to graze, and left for one or two nights. The ground is purified by their presence. On an auspicious day the land is ploughed with carefully selected oxen and a specially made plough.

The cardinal directions are then ascertained by means of a gnomon, a small tapering column which is fixed in place and has its shadows recorded. Great accuracy is sought, and minute adjustments made for the declination of the sun according to the time of year. The importance of proper orientation is referred to.

With these preparations completed, the vāstu-maṇḍala itself is drawn, accompanied by the recitation of mantras. Cords are laid out to define the perimeter. Carefully-made pegs are fixed at the four directions and the four corners. The assumption is of a square; although derived initially from a circle, the square recognizes the cardinal axes which fix it in place. The maṇḍala is completed by dividing the site into plots, or padas, and establishing the pattern of deities, pada-devatā-vinyāsa.

The plots are defined by a grid, set up by establishing an equal number of divisions along each side (from 1 to 32). Thus the simplest diagram, Sakala, is a single plot; the next, Pechaka, is 2 x 2; Pītha

is 3 x 3, and so on:

SAKALA

PECHAKA

Pavana	Soma	Iśā
Varuṇa	Pṛithvī	Āditya
Gaġana	Yama	Agni

PĪṬHA

The eighth and ninth plans, the Manḍūka (or Chaṇḍita) and the Paramaśāyika, are the most fully elaborated in the Mānasāra Śilpa-śāstra. Their geometrical form, and the arrangement of deities, is described thus:
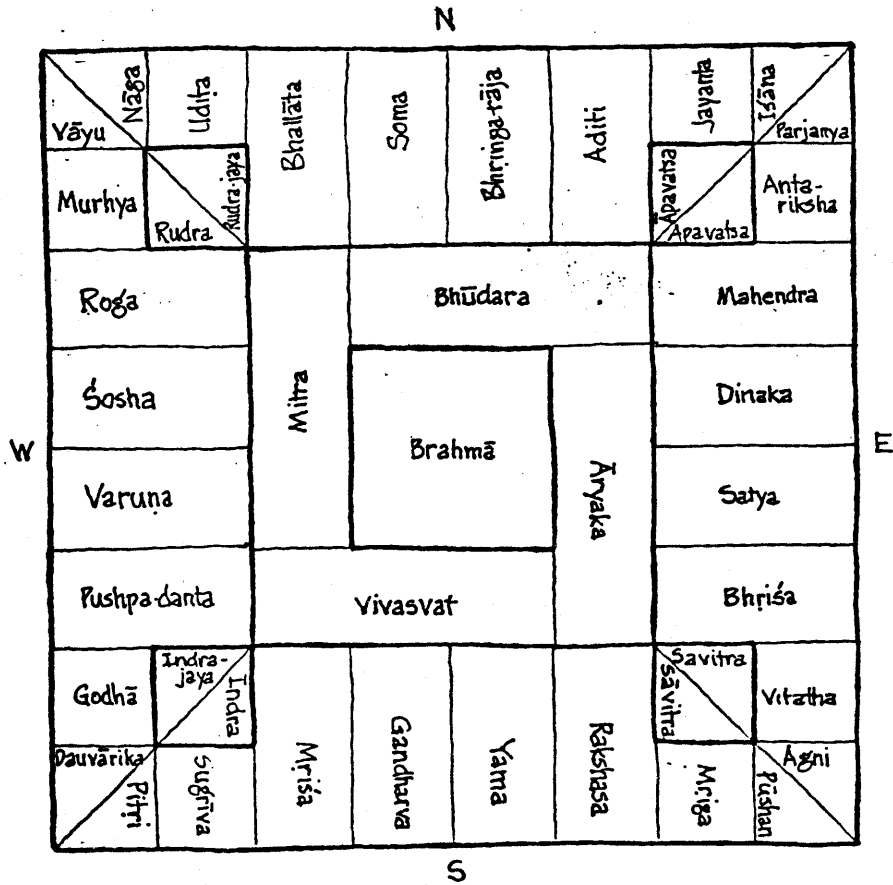
MAṆḌŪKA (or CHAṆḌITA)

Marut	Nāga	Mukhya	Bhallāta	Soma	Mriga	Aditi	Uditi	Īśa
Roga	Rudra	Rudra-jaya	Bhūdara			Apavatsa		Parjanya
Sosha						Apavatsa		Jayanta
Asura	Mitra		Brahmā		Āryaka			Mahendra
Varuna								Bhānu
Pushpa-danta								Satya
Sugriva	Indra-jaya		Vivasvat		Sāvitra	Savitra		Bhriśa
Dauvārika	Indra							Anta-riksha
Pitri	Mrisa	Bhringa-rāja	Gandharva	Yama	Griha-kshata	Vitatha	Pushan	Agni

W ... E

S

PARAMAŚĀYIKA

These are further defined by the figure of vāstu-puruṣa, spirit of the site, who lies spreadeagled beneath the diagram. Emphasis on this anthropomorphic image leads to the name vāstu-puruṣa-mandala, which Stella Kramrisch, in her monumental treatise on the Hindu temple, takes to be the energizing concept of Hindu religious architecture.[1] The Matsya-purāṇa

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[1]Stella Kramrisch, The Hindu Temple (2 vols.). She recognizes the central shrine as the vertical realization of the vāstu-puruṣa-mandala. The sacred geometry has direct three-dimensional consequences. The texts, however, also assume a much wider use of the mandala, in places both sacred and profane. A more indirect horizontal underpinning seems to me its primary, though less visible, function; the temple then is a special three-dimensional reference, a confirmation of mandala potency. To her emphasis on its use in temples, "so that the gods dwell there in peace", I would add an emphasis on its use in secular enterprises (so that men and women dwell in peace as well).

describes the mythological origin of the vāstu-puruṣa:

> When Lord Śiva killed Andhakāsura after a fierce struggle, the sweat of his brow fell down and from it rose a huge Bhūta, filling the three worlds and ready to swallow all beings therein. The Bhūta drank all the blood from the body of Andhaka and yet his hunger was not appeased. He made penance and Lord Śiva was pleased with his penance and granted his boon which was that he should have the capacity to swallow all the three worlds. Having got the boon, he fell down on the earth. The Dēvas, Asuras and Human beings who were alarmed caught this opportunity and they joined in pressing him down sitting on various parts of his body. The Bhūta became helpless and admitted defeat but begged for some provision for his sustenance.
>
> He was then granted Lordship over the site of buildings and the offerings at the end of the daily Vaiśwadēva or oblations to all Dēvatas prescribed as a daily duty for the twice-born in the Dharma Śāstra, and the offering at the end of all sacrifices. It was also ordained that he should be propitiated along with the Dēvatas and Asuras over the body before any construction, and in default of such propitiation he may swallow the fruit of the meritorious deeds of the owner or occupier of the building.[1]

Controlling the puruṣa-demon allows ordered existence to emerge. Drawing the maṇḍala recreates this event. (See illustration next page.) The actual arrangement of deities has several notable features. There is a strong concentric ordering, beginning with Brahmā in the centre; around this nucleus, or Brahmasthāna, are 12 Ādityas, and then 32 Pada-devatās on the perimeter. This circular form is then locked in place by a strong cardinal orientation. The deities controlling the various directions establish the territorial claim of the maṇḍala. Because of the mutual interdependence of the parts, emphasized by their relationship to the underlying puruṣa body, the integrity of the whole is important. The chapter in the Mānasāra Śilpa-śāstra on the drawing of the diagram con-

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[1] K. Vasudeva Sastri, Viśvakarma Vāstuśāstram, p.xix.

cludes with the warning:

> This primary object should be carefully kept in view
> in connection with buildings of gods and men. Root
> as it is of good and evil, none of its parts should
> be rendered defective.[1]
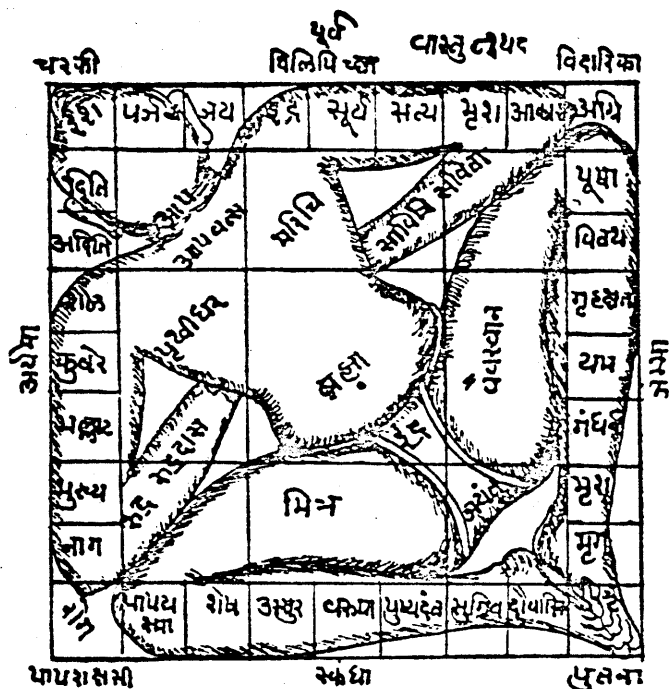
Vāstu-puruṣa maṇḍala
Illustration from a manuscript.[2]

* * *

Further interpretation of the maṇḍala is developed elsewhere. In a later chapter in the Mānasāra Śilpa-śāstra, the vāstu-maṇḍala divisions are organized into four zones: in the centre, Brahmā, as before (covering the same number of plots); around Brahmā, the Daivaka round, or realm of the gods; beyond this, the Mānuṣa round, or realm of human beings, and at

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[1] Mānasāra Śilpa-śāstra VII. 266-269.

[2] From Volwahsen, Living Architecture: India, p. 44.

the perimeter the Paiśācha round, or realm of demons and goblins. This surprisingly inclusive population of the mandala reflects more directly, in a way, the Matsya-purāna story above which has Daivas, Asuras, and Humans collectively pinning down the demon. The organization is spelled out for the seventh, eighth, and ninth plans:
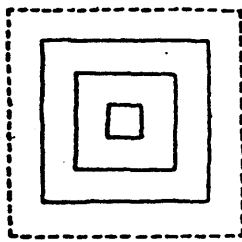
STHANDILA
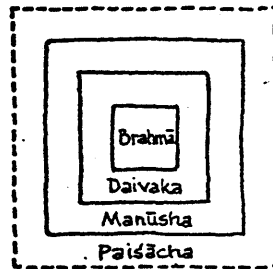
MANDUKA
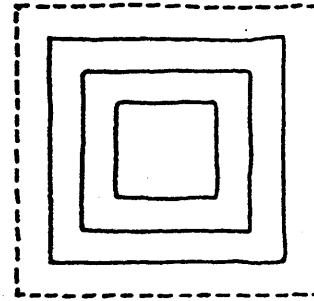
PARAMASĀYIKA

This pattern makes unequivocal the concentric layering.

One last perception, particularly interesting because it involves movement and recalls the original drawing of a circle, is the image of the snake who underlies the mandala and defines its outer limit. An elaboration of the concept can be found in the Bhubana-pradīpa treatise. Nirmal Kumar Bose, who has translated this text, summarizes the account as follows:

> A great serpent (nāga) lies encircling every building-site. Its body is divided into eight equal portions, namely the head, heart, stomach, navel, anus, knee, shin, ankle and tail. The serpent moreover moves round and round in a clockwise direction. Its head lies at the eastern point of the compass in the middle of the month

Āswina. It takes a year to come round to the same
point. It is therefore possible to determine, on
any date, where the different limbs of the nāga will
lie along the boundary of the site. It is required
in the sāstras that the auspicious pillar should be
posted at certain points of the nāga's body in order
to ensure good luck.[1]

* * *

Once the vāstu-mandala has been drawn, sacrificial offerings are
made to Brahma and all the other deities. "The architect should fast
overnight and with pure body and cheerful mind, and putting on his best
clothes, should collect the requisites for the offerings.... For temple
purposes (i.e. on the occasion of building a temple) the ordinary offerings,
and for village purposes the special offerings should be made."[2] To each
deity is presented a different set of foods, flowers, woods, perfumes and
so on. "In this way the deities should be worshipped for the safety of
the village."[3] Such a passage makes clear the strong association of these
rituals with the task of ordering and inhabiting the world.

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[1] Nirmal Kumar Bose, Canons of Orissan Architecture, p.29.

[2] Mānasāra Śilpa-śāstra VIII, 6-7 and 16.

[3] Mānasāra Śilpa-śāstra VIII, 55.

Chapter IV
THE MANDALA AND TOWN LAYOUT

The vāstu-mandala of the texts is a generic diagram for any building enterprise. Sometimes overlapping mandalas share a common centre, as in the case of successive mandalas defining the extent of each concentric court in a large temple or palace.[1] But more often, mandalas in their multiple use radiate from different centres, each one celebrating a particular event in the landscape.

The mandala has an integrity in each application, and at any scale. A pilgrimage through the sacred landscape of India has a counterpart in circumambulation around a holy city, or through the corridors of a temple; so also in the ritual turning-on-the-spot in front of a deity. Each of these movements suggests the sort of spatial definition made explicit in the mandala. The mandala itself has a careful geometry, but like the process of circumambulation itself the relationships it establishes are more topological than geometric. It is a diagram, and thus "a graphic design that explains rather than represents" (Webster's). Only in the garbha-griha of the temple, perhaps, is it given vertical dimension[2], and even here the process is indirect. The lines of the mandala, and particularly the points of intersection (marma-s) must not be obscured by the lines of the actual built wall:


[1]See Mānasāra Śilpa-śāstra, Ch. XXXI.

[2]See note, p.22.
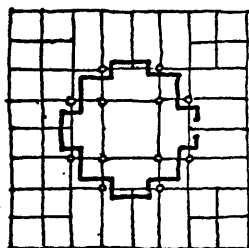
Ground plan of temple sanctuary
overlaid on its Manḍūka vāstu-
manḍala (8 x 8). Small circles
represent points of intersection
in the invisible diagram.[1]

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[1]Volwahsen, *Living Architecture: Indian*, p.45. There is an inter-
esting correlation here with the art of the kolam. These ritual
diagrams are drawn every morning by South Indian women on the ground
in front of the house. Using rice flour, a series of dots is laid
out in a grid pattern. Then
one or more continuous lines
are woven through them, crea-
ting complex designs. In
most cases care is taken
never to touch the dots, al-
though sometimes the lines
connect them. A two- and
often four-part symmetry is
maintained, even when a sin-
gle loop is used. I do not
know the origin or history
of these diagrams. But an
association with the vāstu-
manḍala seems possible. In
the *Mānasara Śilpa-śāstra*
the mandala is to be drawn
with "śāli (corn) and unhusked
rice" (XII, 61) on the occa-
sion of laying the foundation
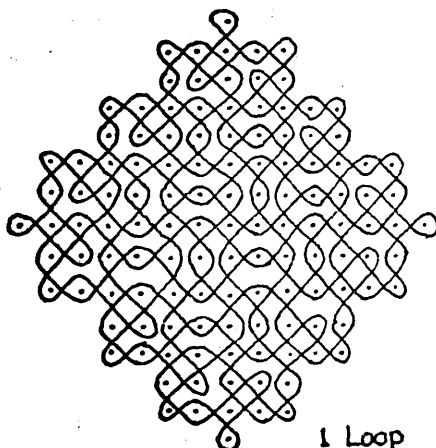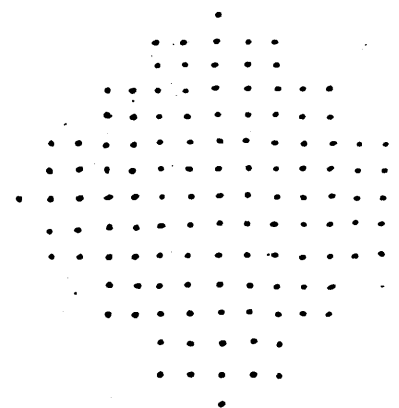of a house.
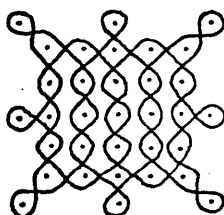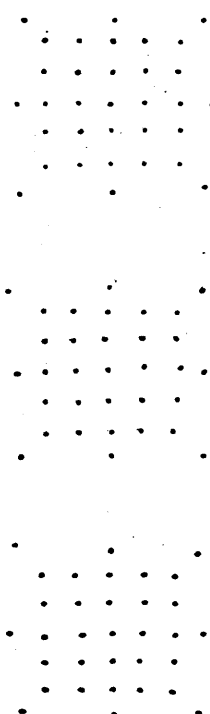
5 Loops
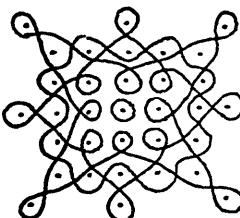
3 Loops
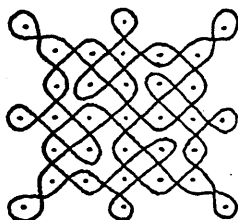
1 Loop

1 Loop

In the villages and towns of the texts the translation into three-dimensions is anything but literal. Some of the town plans can be super-imposed on the mandalas of 84 and 91 plots, so that the streets follow the _sūtras_ or lines of demarcation of the plots.[1] But this is not an explicit rule, and seems to be a fortuitous overlapping where there are two gridded systems operating. A more direct interaction is the assign-ment of plots within the town according to the pattern of presiding deities set up by the mandala. Thus:
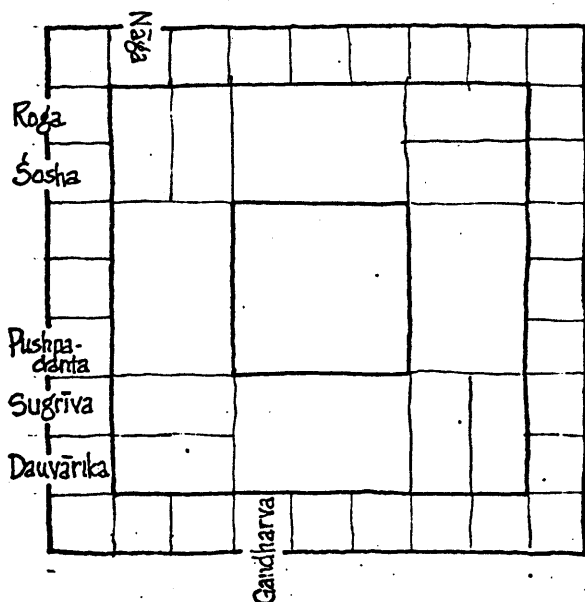
The houses of the priests should be situated in Sugrī-va and Pushpa-danta parts.
In the Dauvārika and Sugrī-va parts should be the houses of the police.
In the Gandharva, the Roga or the Sosha part should be the houses of the drummers and others; therein should also be the halls fit for the dancing of courtesans.
In the Vāyu or the Nāga part should be the houses of the architects.[2]

But even here, the identification is not so much with a geometrical plot

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[1]Volwahsen assumes this as a general rule. See _Living Architecture: Indian_, p.46, and diagram c, p.49. The only reference I could find was this passage in K. Vasudeva Sastri's summary of the _Viśvakarma Vāstuśāstram_ (p.xiii): "In marking the streets the villages having an odd number of Dandas in length or breadth have the streets marked in the middle of a 'pada' or prescribed division. In villages having an even number of Dandas, the streets are marked along the sutra or line of demarkation of padas. These two methods should not be mixed up in the same village."
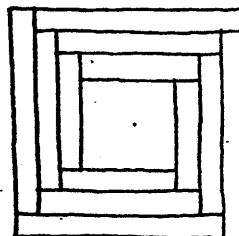
[2]_Mānasāra Śilpa-śāstra_ IX, 229-233.

as with a certain direction and a distance from the centre. Sometimes
the allocation simply shifts to "in the southwest", "in the north", and
so on.

The division of the mandala into the Brahmā, Daivaka, Mānusha and
Paiśācha rounds (described earlier) is mentioned in the Mānasāra Śilpa-
śāstra only in relation to town layout. It suggests directly a concentric
hierarchy which is played out particularly in the second and third of the
eight schemes described. These are the Sarvatobhadra and Nandyāvarta
schemes. B. B. Dutt interprets their basic geometry thus[1]:
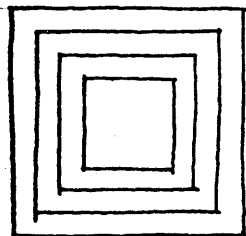
SARVATOBHADRA

NANDYĀVARTA

They most clearly express the topology of the mandala. The texts are
cryptic in their physical descriptions, but the following are visual
interpretations.[2]

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[1]Dutt, Town Planning, p.212 and p.217.

[2]From Mānasāra Śilpa-śāstra IX. Ram Raz, in his pioneering Essay on
the Architecture of the Hindus of 1834 summarized Śilpa-śāstra texts
in English for the first time, and drew diagrams of the village
plans. He shows all street types the same width, however. E. B.
Havell in 1915 emphasized the north-south and east-west axes. But
this seems unwarranted by the texts. P. K. Acharya's work includes
visual interpretations by S. C. Mukherji. Although a much more de-
tailed geometry, the shapes seem unconvincing.
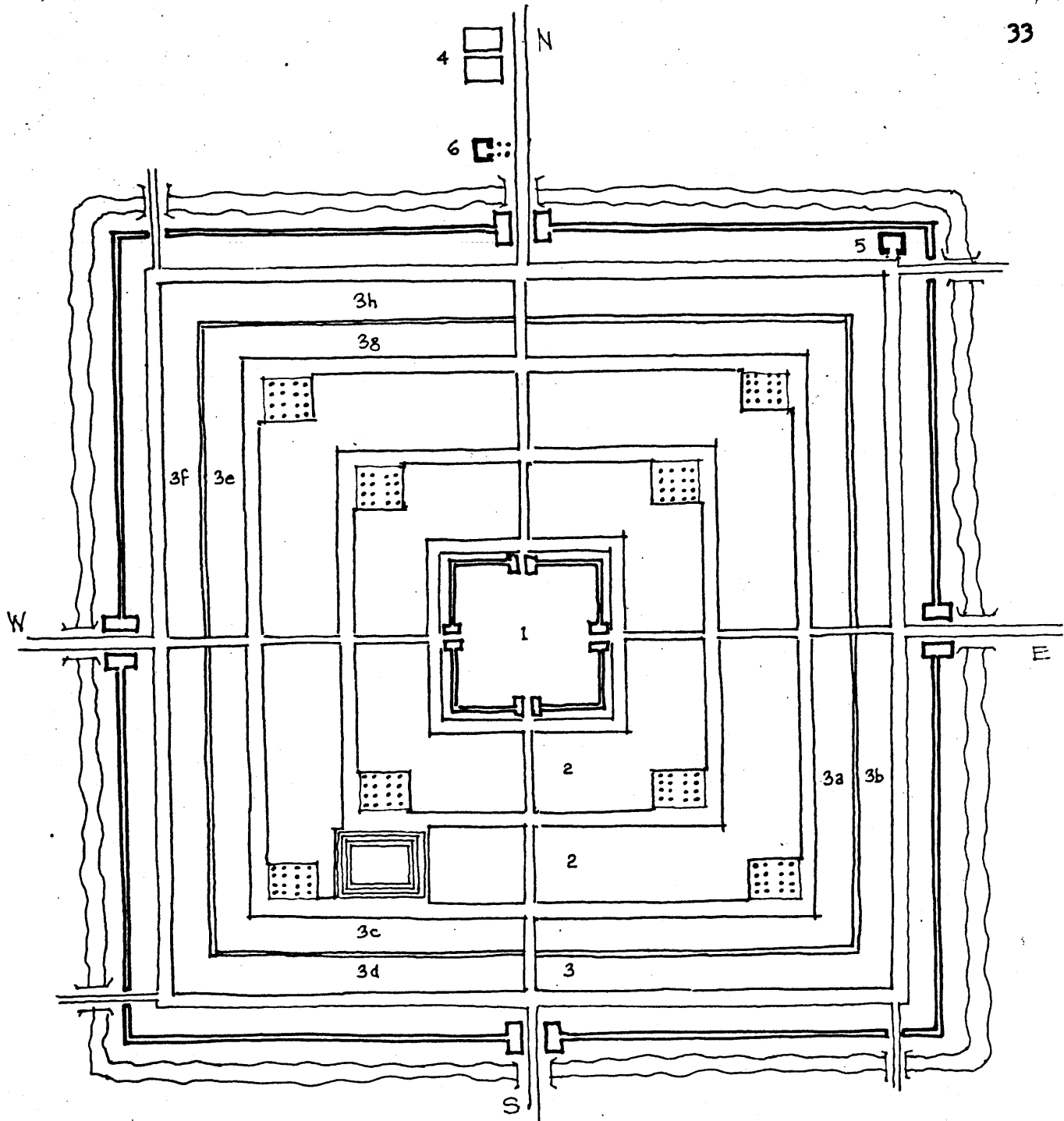
SARVATOBHADRA SCHEME

▦ Matha (Cloister)

▣ Tank

1. Temple of Brahmā, Vishnu, or Śiva
2. Brahmins (entire round)
3. Vaiśyas and Śudras
        (Paiśācha zone)

3a. Milkmen
3b. Cowsheds
3c. Weavers
3d. Tailors and Shoemakers
3e. Blacksmiths
3f. Fishmongers and Butchers
3g. Srikaras and Physicians
3h. Tanners and Oilmen

4. Undertakers
5. Temple of the Guardian Deity
6. Temple of Vaishnavi and Chāmundā
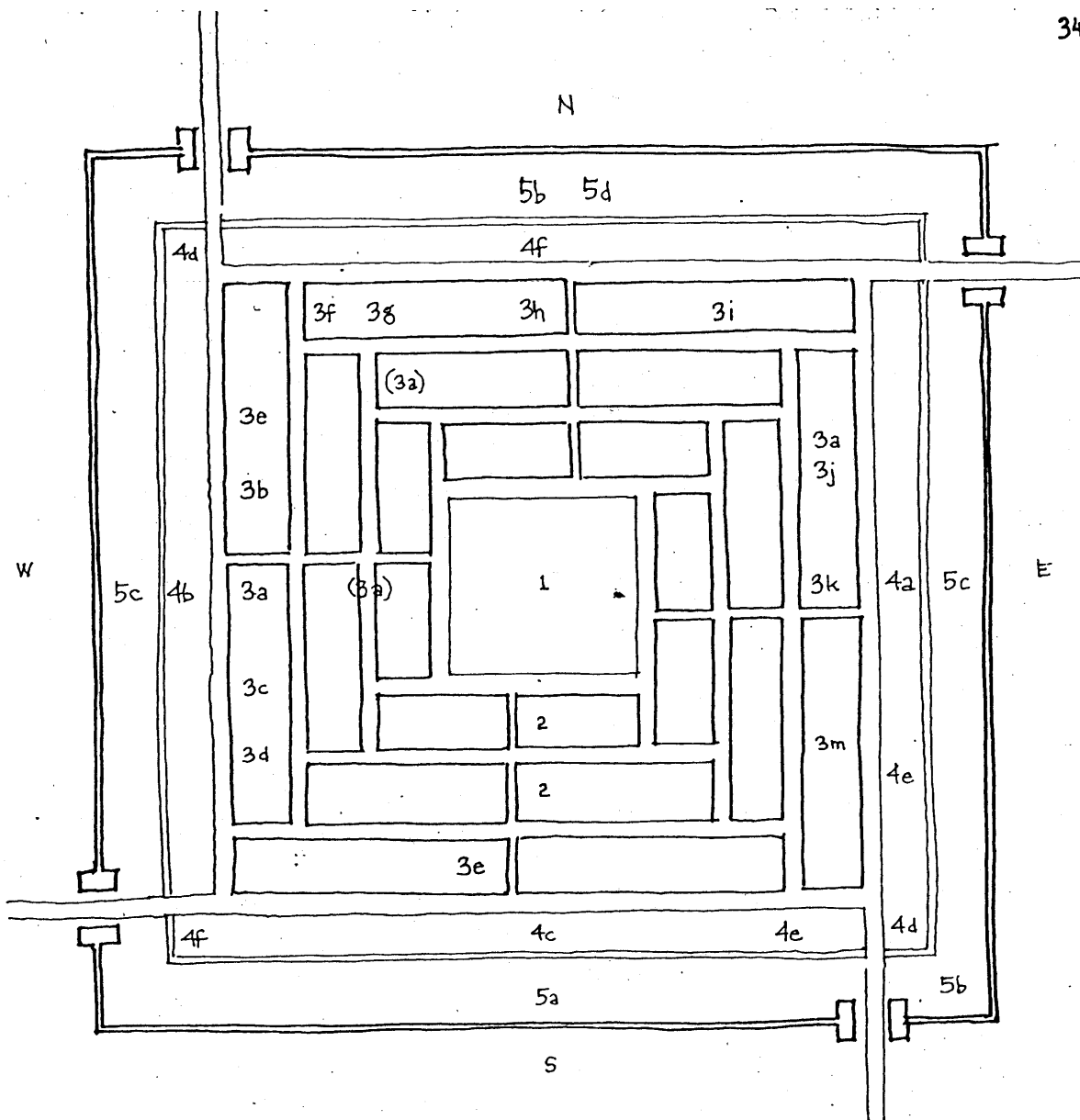
NANDYĀVARTA SCHEME

1	Unspecified	3k	Palanquin bearers
		3m	Guest houses
2	Brahmins (entire round)		
		4a	Oilmen and Potters
3a	Palace (several alternatives)	4b	Fishmongers and Butchers
	and Kshatriyas	4c	Hunters
3b	Ministers and nobles	4d	Washermen
3c	Priests	4e	Dancers
3d	Police	4f	Tailors
3e	Musicians and Courtesans		
3f	Architects	5a	Blacksmiths
3g	Cosmeticians	5b	Basket makers
3h	Armor-makers	5c	Weapon-makers
3i	Physicians	5d	Leather-workers
3j	Watchmen		

Presumably the deity association has something to do with the alloca-
tion of trade groups and so on. But this relationship is not spelled out
in the text, and the patterns seem to vary a good deal from treatise to
treatise (the pattern of trade distribution, that is; the pattern of deities
is more firmly fixed, according to their connection with the various direc-
tions). In general, the hierarchy from the centre outward is maintained.
The Sarvatobhadra scheme clearly calls for a temple in the central Brahma-
sthāna. The Nandyāvarta is vague about the central plot, but establishes
a correlation of status with the annular zoning:

> In this village (when inhabited by people of all castes)
> the houses of the Brahmins should be situated in the
> parts ending at the Mānusha part (i.e. including the
> Daiva part); the royal palace should be situated in the
> Daiva, the Mānusha, and the Paiśācha parts; and the
> houses of the Vaiśyas, the Śūdras and others are situa-
> ted in the Paiśācha part.[1]

The ambivalent status accorded the ruler is striking.

Both schemes include streets which circumscribe the Brahmasthāna, the
Nandyāvarta with a more interesting geometry that has a suggestion of
movement in it. In practice, such streets often exist around a temple, with
a single name along their full length. They are associated with religious
car-festivals. Whether their appellation in the texts as rathya (ratha =
car) refers specifically to religious processional cars is unclear. The
rite of circumambulation is the principal feature of the final ceremonies
on completion of a village. The image of the snake underlying the vāstu-
maṇḍala is here brought to mind, a moving force defining and protecting
a piece of land. The other controlling element, the concentration of

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[1] Mānasāra Śilpa-śāstra IX, 213-219.

forces at a central point, is also recognized.

> At the time of circumambulation of villages (on the
> occasion of the first entry into it) the circumam-
> bulation should be completely carried out by going
> round the parts of the Lords of the eight quarters,
> proceeding from those of Bhūdar (i.e. north), Indra
> (Sureśvara, i.e. east) and of others; or in the ab-
> scence of a (circumambulatory) path by (going round)
> the neighborhood of the plots of the Lords of the
> eight quarters (of the village).

> The offerings to the Lords of the quarters should
> fully be made at (a temple built in) the Brahmā
> (i.e. central) part (of the village); one should go
> and see the deity and then should retire.[1]

And with this, the inhabitation of the landscape is accomplished at a

communal scale. The reality of the vastu-maṇḍala is affirmed.

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[1]Mānasāra Śilpa-śāstra IX, 502-506.

Chapter V
MADURAI: EARLY HISTORY

The Śilpa-śāstras have to be taken as somewhat rarefied treatments of
the subject of town-planning. The careful use of such intricate vāstu-
maṇḍalas probably seldom occurred; there are no records of the conscious
application of this or that particular scheme in medieval Indian towns.
But they are useful as an abstraction of ideas about corporate life and
the design of urban centres. They provide a foil for the study of actual
city landscapes.

The city of Madurai in its present form displays many of the qualities
of the texts. But it is much richer than these visionary schemes; it has
an historical presence that makes sense of the physical configuration. It
unfolds as an interplay of concrete historical activity, on the one hand,
and more abstract expressions and justifications of such activity on the
other. The interaction occurs over time, but is also recorded spatially.

An actual chronology of Madurai's early existence is impossible to
construct for lack of direct evidence. Its roots, however, go well back
into the 1st millenium B.C., and it seems to have been associated with a
Pandyan dynasty from the start. Megasthenes, the Greek ambassador at
Chandragupta's court in the 3rd century B.C., speaks of a Pandyan princess
ruling at Madurai, and there are clear references to Pandyan terrirory in
Asoka's inscriptions. Although inland, the city's rulers controlled much
of the southern coasts, and there seems to have been a fairly active trade
with Greece and Rome. Ptolemy mentions 'Modoura' as a Mediterranean Empor-
ium of the South; and it seems probable that an ambassador was sent to

Augustus by the Pandyan king.[1]

The first three or four centuries of the Christian era mark the Sangam Age, and Madurai emerges as something of a focal point of South Indian culture. The Pandyan rulers are celebrated as having been great patrons of art and learning. Under their aegis, the Madurai Tamil Sangam seems to have attracted the best scholars of the South. The works it produced represent the oldest stratum of Tamil literature; "in the poems of the Sangam anthologies, the Tamil language has reached maturity and begun to serve as a powerful and elegant medium of literary expression".[2]

From these works and those of a few centuries later, such as the Silappadikaram, come the earliest descriptions of Madurai. It is difficult to get a clear sense of the overall form beyond a mass of descriptive details. The only suggestions are indirect.

There is the obvious delineation of a central city by the encircling ramparts. The penetration of the wall is celebrated in the elaborate gate-towers, carved with images of Laksmi besmeared with ghee.[3] The significance of the boundary is suggested in the account of Kannaki and Koralan's arrival at Madurai in the Silappadikaram:

> To earn some merit, they first walked, as pilgrims do,
> around the walls of the town where the gods dwell. They
> followed the ramparts, covered with thick overgrowth.[4]

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[1] J.P.L. Shenoy, Madura, The Temple City, pp.4-5.

[2] Nilakanta Sastri, History of South India, p.117.

[3] From a portion of the Maduraikkanji, translated in A.L. Basham, The Wonder that was India, pp.203-204.

[4] Shilappadikaram, Alain Danielou, trans., p.91.

Within the walls, the shape of the city is compared to a lotus.[1] The poet
sets a koyil at the centre, which can translate as either temple or palace;
the interpretation in this context is controversial. A palace nucleus is
suggested in several ways: there were four broad streets around the royal
quarters, inhabited by ministers, merchants, Brahmins, and various royal
servants[2]; these would conform to the petals-of-a-lotus analogy. A 'fes-
tival' described in the Maduraikkanji is a royal procession, complete with
musicians and elephants. Perhaps most interesting is a description of the
Queen's premonition of disaster when the Pandyan king makes the fatal mis-
take of an unjust death sentence:

> Alas! I saw, in a dream, a scepter bent, a fallen
> parasol. The bell on the gate moved of itself and
> rang loudly. Alas! I also saw.... I saw the eight
> directions of space wavering.[3]

The implication is that the king's administration of justice is vital to
the stability of the world order, and this is given a spatial dimension:
the king with his attributes of scepter and parasol occupies the centre
of a mandala of the eight directions.

As opposed to the vāstu-maṇḍalas of the Mānasāra Śilpa-śāstra, which
describe a careful arrangement of gods within a space, around Brahmā, a
more elementary ordering is a simple recognition of the presiding deities

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[1] The passage from the Paripadal is given on p.3.

[2] C.P. Venkatarama Ayyar, Town Planning in Ancient Dekkan, p.42. His
descriptions of Madurai are culled from the various contemporary
literary sources. However, he also includes information from the
Tamil puranas. These are much later interpretive legends of the
city's history (discussed below).

[3] Shilappadikaram, Danielou, p.126.

of the eight quarters. In the S̄ilpa Prakās̄a architectural treatise, for
example, the initial diagram is of this sort:
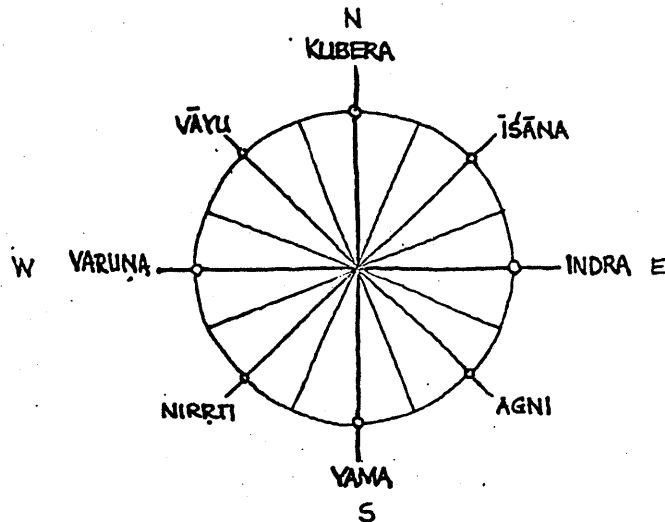
There is no deity at the centre: rather, Brahmā is to be imagined above,
and Ananta, the serpent-god, below.[1] That such an ordering is a part of
the culture of Madurai in these early years is indicated by the following
passage from the Neḍunalvāḍai:

> The buildings of Madurai are constructed by expert
> architects, according to the tenets laid down by the
> architectural books (nūl), perfectly planned with
> threads taking into consideration the directions and
> their respective gods.[2]

For any individual dwelling, these directions converge and define a centre;
for the royal dwelling, the centre thus defined seems to involve the whole
kingdom ('Paṇḍi-maṇḍala' in the language of some of the later inscrip-
tions[3]). Recalling the spreading tree defining a village centre, the

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[1] S̄ilpa Prakās̄a of Rāmacandra Kaulācāra, I, 19-23.

[2] Neḍunalvāḍai II, 76-78. Translated for me by Pon Thinakaran.

[3] E.g. see K.A.N. Shastri, History of South India, p.98, p.107.

king's parasol "was protecting the land, keeping us cool under its shade; and now the fierce rays of the sun may devour us. What are we to expect?"[1] Whatever the exact configuration of the city, it seems likely that the diagrammatic image would place the king centrally. There are no clear references to a presiding deity; various temples are mentioned, including a Saivite shrine, but then there is a separate 'goddess of Madurai'[2] who is not mentioned in connection with a temple. She has eyes like lotuses, and is the protector of the royal clan. Her association may in fact be with the royal quarters, an indirect deity association with a 'secular' koyil.

*　*　*

The next main source of information on the city comes from the Madurai Sthala-purāna, a legendary account of the city's origin and history. There is a Sanskrit version, and two important Tamil texts. The earliest extant verson seems to go back to about the twelfth century.[3] The basic narrative thus takes shape towards the end of more or less continuous Pandyan rule in Madurai, and before the period of Nayak control (16th to 18th centuries), when the city took on its present form.

Called in Tamil Tiruvilaiyādal Purānam, 'The Purana of the Sacred Amusements', the chronicle emphasizes the dominance of Siva in the life of

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[1] Shilappadikaram, Danielou, p.124.

[2] Shilappadikaram, Danielou, ch.23.

[3] Dennis Hudson "Two Citra Festivals in Madurai", unpublished paper, p.48.

the city. I reproduce here an extensive extract from Nelson's summary,
covering the first five of the sixty-four stories.

The authorship of the work is ascribed in the preface to the
Rishi Vyāsa, who is declared to have learnt the facts therein set
forth from Agastya. He (the latter) and other Rishis were wor-
shipping the linga one day at Kāsi, when he was asked by the com-
pany to tell them which was the holiest book in the universe,
which the holiest spot, which the holiest water. He informed
them that the Skanda Purāna was the holiest of all books, for it
told the praises of Sundara linga, that is of Siva; the Kadamba
tree forest (on the site of which Mad'hurā is said to have been
built) was the holiest of all spots, both naturally and because
it contained the most holy linga and the most holy water; the
holiest water was the <u>Swarna-push-karini</u> or "pool of the golden
lilies" in the abovesaid forest. And he added that the Kadamba
forest was the place in which the god Siva had performed sixty-
four miracles: which he would then and there describe in order.

1st Story.-- The first miracle took place in the Krita Yuga
and under the following circumstances. Indra was so much inter-
ested one day in a celestial nātch, that he neglected to pay
proper respect to Brahaspati, the Guru or spiritual adviser of
the gods: and the latter withdrew from his presence in great an-
ger, and threw up his appointment. In consequence of this, and
after consultation with Brahma, Indra appointed a three-headed
giant named Visvarūpa to act as Guru during the absence of Bra-
haspati or until further orders: and set to work to find the
missing priest. Soon after this the new Guru performed the
Yajna sacrifice; and as there was undying enmity between the
gods and the giants, he took it upon himself, being a giant,
to curse the former and bless the latter. This irregularity
greatly enraged Indra, and he forthwith cut off the Guru's
three heads with his Vajrāyutha, or peculiar weapon: when to
his astonishment the three heads instantly became birds and flew
away. Now the giant was of the Brāhman caste, and the sin of
killing a Brāhman began to weigh heavily on Indra's mind. It
was however removed after a time by the assistance of the gods,
and having been divided into four parts was injected into trees,
women, waters, and earth, upon which its portions became respec-
tively gum, menstrual evacuations, froth, and fuller's earth.
Relieved from this incubus Indra hoped to regain his peace of
mind: but he was disappointed. Twashta, the father of the slain
giant performed a Yajna sacrifice, and by means of it produced
in place of his son a still more formidable giant named Vrittra,
who at once attacked and defeated Indra. The latter fled, and
applied to Brahma for assistance: who referred him to Vishnu.
This god advised him to throw away his Vajrāyud'ha, which had
become less and less effective day by day since the displeasure
of Brahaspati had been incurred, and to make a new one out of
the back-bone of the Rishi Dad'hyang. Indra accordingly sought

out the Rishi, and informed him of his circumstances and need:
and the Rishi forthwith voluntarily gave up the ghost, and Indra
was enabled to make the terrible weapon which he required.
Armed with this he boldly attacked the giant: but the latter fled
in dismay, and hid himself in a deep sea. Indra in vain tried
to find his adversary, and by the advice of Brahma went to the
Rishi Agastya and asked his aid. The Rishi was willing to assist
him, and with scarcely an effort drank up the seven seas which
surround the earth, and brought the giant into sight; upon which
Indra killed him with his new Vajrāyutha. Unfortunately this
giant too was a Brāhman, and Indra was tormented by the stings
of conscience to so great a degree, that he retired from the
world; and took refuge within the stalk of a lily growing in a
tank.

Indra having retired, there was no king to rule his heaven;
and the gods were compelled to elect in his place a mortal,
named Nahusha, who had performed a hundred Ashwa-mādha sacrifices
and thereby qualified himself to reign in Indra's heaven. After
his coronation, Nahusha announced his intention of taking Indra's
place as husband, as well as king: and Indrāni the Queen was
filled with alarm. However, there was no help for it, and she
was compelled to agree to receive his embraces, provided he came
to her in a palanquin borne by the seven great Rishis. Nahusha
consented to the arrangement, and, the Rishis being willing to
carry him, entered the state palanquin, and directed them to take
him to Indrāni's abode. On the way he became so impatient of the
delay to which he was submitting, that he impertinently cried out
to the Rishis, sarpa! sarpa! which means both "Get on! get on!"
and "a serpent." The Rishis were very much disgusted at being
ordered about in this way by a mere mortal, and pronounced a
charm which forthwith turned him into a serpent: and so his brief
reign ended, and Indrāni's chastity was preserved. After this,
Indrāni accompanied by the gods and by Brahaspati, who had now
returned to his duty, went to look for Indra. Having found him,
Brahaspati graciously forgave him: and pointed out to him how he
might become purged of all the guilt that he had incurred, namely
by visiting all the holy places in the world. Indra then set out
with Brahaspati, ostensibly on a hunting expedition, and visited
many places: but all to no purpose, as the guilt was by no means
removed. At last they came to the Kadamba forest, and immediate-
ly all was well with the sinner, and he felt that his sin was re-
moved. In the joy of his heart he looked about for the cause of
his happy deliverance: and after diligent search found a linga
near a tank. He at once sent for the celestial artificer Visva-
karma, and instructed him to make a splendid shrine for the linga:
and in a very short space of time the precious emblem was sur-
rounded with a golden structure, gorgeous with precious stones,
and containing eight figures of elephants, thirty-two of lions,
and sixty-four of celestial messengers. And near to it was
erected a shrine containing a figure which represented Ishwari
the wife of Siva. All that was wanting was flowers wherewith to

adorn the linga, and these were furnished by the tank, on the surface of which there suddenly appeared beautiful golden lilies. Indra then worshipped the linga, and Ishwari's image with unparalled fervour, and named the former Sundara linga. Siva was greatly pleased with this adoration; and having appeared to Indra's delighted eyes promised to grant him whatever he might ask. Indra replied, that all he wanted was the inestimable privilege of worshipping the blessed linga every day: but Siva declared that there was no need for Indra to take so much trouble to the neglect of his kingdom; he might descend from his heaven and worship the linga once a year, in the month of Chittra, on the day of the full moon, and should derive as much benefit from so doing, as if he descended and worshipped every day. He then disappeared: and Indra and Brahaspati returned to their capital.

2d Story.-- The second story is to the effect that Indra's white elephant, Ayrāvata, was cursed by the Rishi Durvāsa and made to wander wild in the jungles, for having maliciously destroyed some flowers presented to Indra by the Rishi. The elephant was freed from its guilt at last by wandering accidentally into the sacred Kadamba forest: and gratefully set up an image in honor of the god Siva's son, and called it Ayrāvata Vināyaka, and also dug a sacred tank, at a place west of the

DENNIS HUDSON

One section of the Meenakshi Temple wall mural depicting the Sthala purāna. The image in the upper left concerns the initial layout of the city.

forest. And at another place east of the same it set up a linga, and named it Ayrāvata linga. The name given to this place was Ayrāvata town.

3rd Story.-- The third story runs as follows. When a king called Kula Shĕk'hara Pāndya was ruling at a place called Kalyāna-pura, situated east of the Kadamba forest, a merchant called D'ha-nanjaya was once benighted in that forest, and discovered the holy linga and the shrine which protected it. He immediately reported the discovery to the king, who also dreamed that a Rishi came and desired him to build a Pagoda and a city in that place. The king forthwith cleared the forest, and within the space of ten days built round the shrine towers, walls, temples, and a goodly city: and he sent for Brāhmans from Kāsi to worship the linga in the proper manner. Having completed his pious work, he

was doubting how to name the new town, when the god Siva appeared
and as a mark of especial favor sprinkled the new buildings with
drops of nectar shaken out of his locks. From this circumstance
the town derived its present name Mad'hurā, which means sweetness.
Feeling his end to be approaching the king appointed his son
Malaya D'hwaja his successor, and had him crowned. He then died.

4th Story.-- In the fourth story we are told of the incarna-
tion of Siva's wife. Malaya D'hwaja had married the daughter of
Shūra Sēna, the Rāja of the Chōla country: but failed during
10,000 years to get a son. He filled his seraglio with thousands
of wives and concubines: but all to no purpose. In despair he
performed the putra-kāmēshti sacrifice, by which pious men pro-
cure children: and his desire was speedily accomplished. For
Ishwari or Mīnākshi, Siva's wife, rose out of the sacrifice in
the form of a child. The queen was delighted with the infant,
and nurtured it with the greatest tenderness: but both she and her
husband were greatly concerned to see that it had a third breast
situated midway between two proper breasts. However, their
anxiety on this score was removed by a fairy who appeared and
told them, that the unsightly excrescence would leave the child
so soon as she saw her future husband: and at the same time ad-
vised the Pāndya to call the child Thatāthakei, and crown and
make her his successor. This he did: and died after having the
child taught all the known sciences.

5th Story.-- The fifth story consists of a description of
Thatāthākei's marriage. She assembled a large army of horse and
foot soldiers, war-chariots and elephants, and having put herself
at its head attacked and defeated all the kings of the earth,
then the gods of the eight quarters, and lastly Indra himself.
She then invaded the heaven called Kailāsa and defeated Siva's
troops, and at last Siva himself had to come forth to fight
against her. The instant she caught sight of him, her third
breast disappeared; and she hung down her head in shame knowing
that she was in the presence of her future husband. On learning
this Siva promised to marry her on the approaching Monday. Tha-
tāthakei then returned to Mad'hura, and her prime minister Suma-
thi made great preparations for the wedding. The kings of the
fifty-six countries which composed the world were all invited to
attend; the city was magnificently decorated; and the hall of
marriage was made resplendent with jewels. On the appointed
day Siva came in the form of a man, mounted on his celestial
bull, attended by Vishnu and Brahma, and escorted by his ser-
vants, and by Indra and all the gods. As the procession approach-
ed Mad'hurā, it was met by the bride's mother, who washed Siva's
feet and put garlands round them: and bade him accept her daughter
and the throne. Siva smiled graciously in token of acceptance:
and entered the marriage hall. Then the wives of Vishnu and
Brahma, Lakshmi and Saraswati, decked the bride with the rarest
jewels, until her face shone like the concentrated rays of a
thousand suns: and placed her at the right hand of Siva. All

being ready, Brahma performed the service, and Vishnu laid the
bride's hand upon that of the bridegroom, and pouring water
upon it declared the queen to be Siva's property. Meanwhile
musical instruments of all sorts gave forth the most delight-
ful melody: Rishis and Brāhmans chanted sacred verses: and all
kinds of pleasing ceremonies were observed. The marriage
having been duly performed, Siva was crowned king of Mad'hurā,
and assumed the name of Sundara Pāndya.[1]

D. HUDSON

The marriage celebration of Siva and Meenakshi, with Vishnu in attendance.

The stories go on to trace a long dynasty of Pandyan kings. The transition

from divine to mortal actors is gradual. Siva's successor, his son Ugra

Pandya, conquered in turn the god of the seas, the god Indra, and the god

who dwells in Mount Meru. His son, Vira Pandya, and those that followed

did not engage in such divine feats. But their reigns are marked by the

continuing active presence of the divine Siva in the life of their city.

[1]J.H. Nelson, The Madura Country, Part III, pp.3-8.

The implication of the stories is of a gradual transition from sacred to secular rule, but in fact the historical process may in some ways be the opposite. The earlier warrior-king of the Sangam accounts with his personal mastery of the directions - _digvijaya_ - reappears now as a ruler whose secular power is justified within a religious framework. Several centuries after the close of the Sangam age there began a period of South Indian history marked by the rise of Brahmanical influence. Saiva nāyanārs and Vaisnava ālvārs together stimulated a widespread Hindu religious revival. An important event was the saint Sambandar's conversion from Jainism of the monarch Kūn Pandyan in Madurai. Subsequent kings performed several Tulabharas and Hiranyagarbha-danas, elaborate 'Aryan' rituals.[1]

The Puranic accounts of Madurai's history are recognized in part as apologetic works, seeking to infuse Saiva consciousness in the city. The spatial implications are clearly dealt with; a central _koyil_ structuring the city is here justified as a sacred domain from the start. The approach tallies with the implications of the Śilpa-śāstras, which have appeared earlier. A central Siva temple, which begins to attain unprecedented splendour during the 12th and 13th centuries, is appropriately sited in the Brahmasthāna of the texts. From the Tamil versions of the Puranic history Venkatarama Ayyar develops two accounts of the layout; one an initial plan, the other a reconstruction after a disastrous flood.[2]

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[1] K.K. Pillay, "The Madurai Pandyas" in _The Madurai Temple Complex_, A.V. Jeyechandrun, ed., p.155.

[2] The historical occurence of such a flood seems possible. But it can also be interpreted as a mythic point of demarkation between the previous cosmic era and our own. See Dessigane _et al_, _La Legende des Jeux de Civa a Madurai_, p.xi.

He casts the information in a strictly historical mold, and extracts the following spatial details: the temple, "the main monument in the centre of the proposed city," as the starting point, surrounded by religious maṇḍapams and large gopurams; streets around the temple and large procession streets, intersected by small lanes; and various public open spaces and tanks. "The fort walls, ditch, etc., were then planned according to the rules laid down in the śāstras of hoary antiquity."[1] The reconstruction is then caused by a regrowth of the city around the temple complex, which escapes destruction in the flooding. The king decides to relieve congestion by expanding to the line of the original city. According to Venkatarama Ayyar, he "caused a resurvey of the limits of the old city made from a study of the ancient traces," and the boundary line was formed. The enclosed space, with its central temple, becomes known as Ālavāy, "that is, a circular plan, as a serpent would make if it should bring its head and tail together round an object."[2] The various classes of the population are then allotted to specific areas, once the portion for the palace is apportioned (in the earlier account placed in the northeast). This organization, plus the distribution of schools, streets, and playgrounds, is again "according to the Śastras".[3]

While these descriptions may indicate some physical patterns developing towards the end of Pandyan control, they have limited use as a

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[1]Venkatarama Ayyar, Town Planning in Ancient Dekkan, pp.28-30.

[2]Venkatarama Ayyar, pp.31-32

[3]Venkatarama Ayyar, p.38.

source of objective data on the city's actual origins and early history.[1]
Their usefulness is as a guide to a more general conceptual image now
evolving. The stories set a context for the developments of the 16th and
17th centuries.

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[1]The snake-analogy, in the Puraṇas, for instance, has a direct mythic
dimension. The king begs Siva's help in establishing the old city
limits; Siva causes his bracelet to turn into a live snake, which
then stretches itself, starting in the east, clockwise along the an-
cient city limits. See Dessigane et al, La Legende des Jeux de Civa
à Madurai. In their translation of the Tamil text, they do not use
the word Śastra, but the Puranic authors certainly seemed aware of
Agamic and other town planning literature. In response to the first
king's request for aid in designing the city, "Celui-ci [Siva] lui
dit suivre les principes donnés dans les divers Âkaman et les traités
d'architecture pour la construction de la ville." Story 3, 12-42.
The centrality of a temple in the vāstu-maṇḍala, the importance of
a conscious delineation of space by a snake, the positioning of a
palace in the northeast, the distribution of population in segre-
gated groups; all recall prescriptions of the Śilpa-śāstras.
According to Dutt, the Śilpa-śāstras were translated into the South
Indian vernaculars (Tamil etc.). Town Planning, p.12.

Chapter VI
MADURAI: THE PRESENT PATTERN

After a period of Muslim occupation in the 14th century, during which most of the burgeoning temple complex in the centre of the city was razed to the ground, Madurai came under the control of Vijayanagar emperors. They restored the Pandyan kings, but in a much subordinated rule under a viceroy. Two hundred years later, this viceroyalty evolved into a Nayakship, semi-independent government by Nayaks of Madurai with nominal recognition of imperial control.

This time of Nayak rule is one of the more resplendent in the history of the city. There was a succession of reasonably strong and able rulers, and the period is marked by relative prosperity. The physical structuring of the city that emerges has survived surprisingly intact to this day. The first and perhaps most able of the line, Viswanatha Nayak, pulled down the old Pandyan ramparts and erected a considerably larger, double-walled fortress. He is also credited in local history with having established the four main streets, which run in expanding concentric squares around the sacred centre: Adhi, Chitrai, Avanimoola, and Masi. In establishing the pattern, he is said to have acted "according to the laws of the Silpa Sastras."[1] Unfortunately there do not seem to be extant records of the planning process; Tirumala Nayak, a later successor with a

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[1] J.P.L. Shenoy, Madura, The Temple City, p.7. The assumption is then picked up, for example, in the short history in Directory of Madurai, S. Chidambaranatha, ed. No source is given for this information.

penchant for grandiose schemes, might have played a part.[1] The original

schematic shape is this:
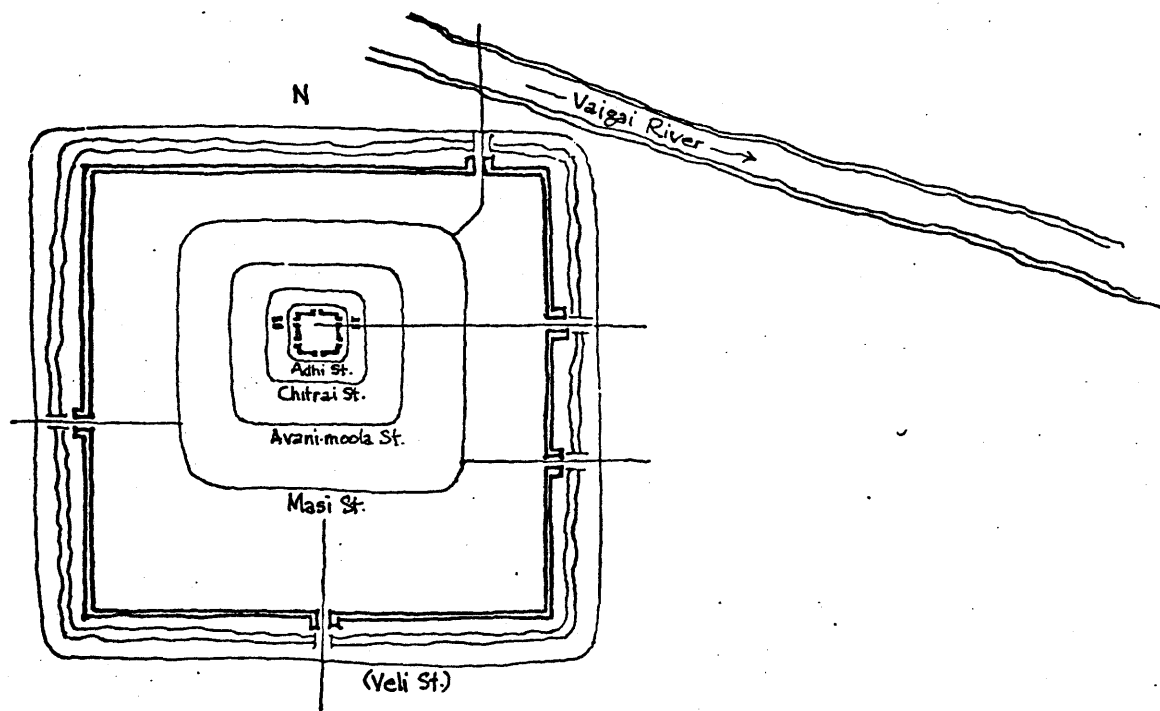
Two gopurams, large gateway-towers, are shown here between Adhi and Chitrai

Streets. By Tirumala's time (early 17th century) these have been incorpor-

ated in a new temple boundary wall, with north and south gopurams added.

Adhi Street is then inside the sacred precincts. Tirumala hinted at con-

tinued expansion in his Pudu-mandapam, 'New Hall', between Chitrai and

Avani Streets, and the beginnings of an enormous 'Raya-gopuram' just out-

side Avani Street. But the implications in terms of a whole new concentric

temple court were never realized. He further emphasized the eastern axis

[1]It is possible that Masi Street, the largest of the squares, was
laid out in conjunction with Tirumala's procurement of huge new
temple cars for the Meenakshi-Sundareswara wedding festival (for
which see W. Francis, Madura, p.273.). Tirumala is credited with
laying out the car-streets of Suchindram (see Ch. VIII below).

Teppakulam

in the excavation of a sacred tank or Teppakulam (the largest of its kind in India), several miles outside the city. His other major investment was an enormous palace in the southeast.
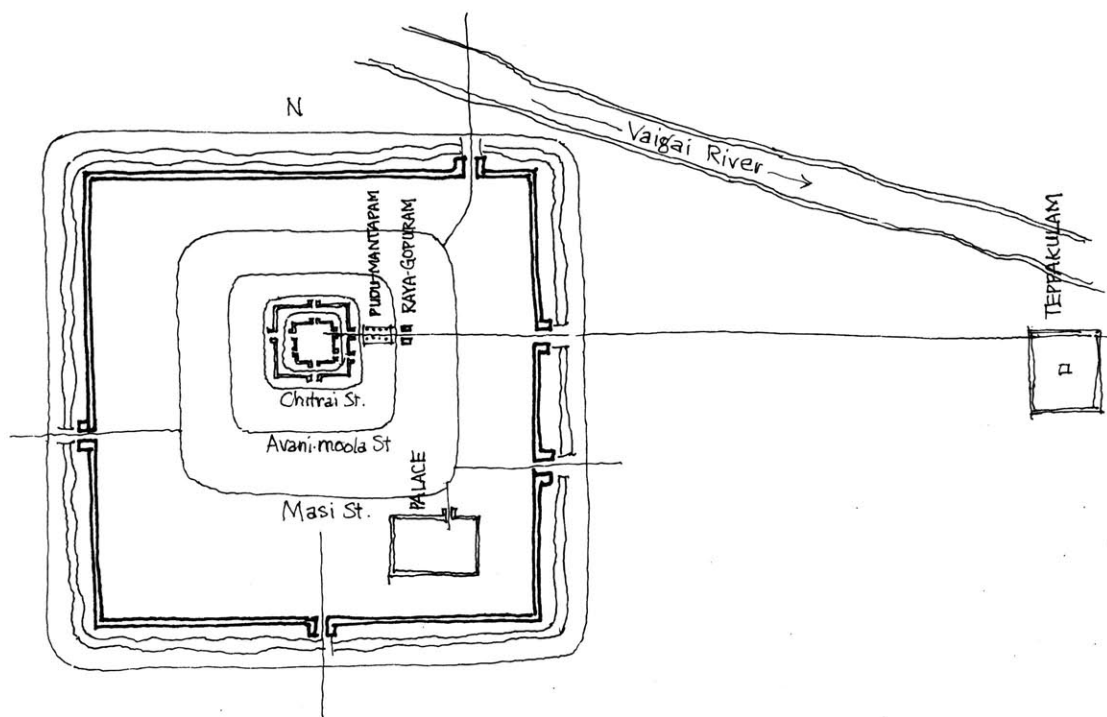
The claims of the Puranic accounts described earlier, and their association with the Śilpa-śāstras, are given clear definition in this new city of the Nayaks. The currency of these stories is evidenced by the appearance during Tirumala's reign of a new Sanskrit version; the author may even

Central axis of the vāstu-maṇḍala : the gold-plated vimanan
of the Siva shrine.

have been a minister in Tirumala's court.[1] Siva has indeed found a home.
The secular palace, by comparison, is definitely a subordinate element
diagrammatically. The Telegu-speaking Nayaks, outsiders to the long
association between Madurai and the Pandyans, seem to minimize their role
as usurpers of power by giving schematic dominance to the Pandyan heri-

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[1]See C. R. Anantha Raman, "Siva Lilavarna" in The Madurai Temple Com-
plex, pp. 353-359. A full translation of the parts of this text
dealing with the city layout might be illuminating. Paranjothi
Munivar's definitive Tamil text dates from this same period.

tage, embodied and abstracted in the deities Meenakshi[1] and Sundareswarar. It is _their_ palace, and _their_ festival processions, which define a vāstu-maṇḍala; secular rule operates in this context.

* * *

As the Nayaks perhaps suspected, the sacred maṇḍala has indeed proved to be more basic to the city's identity than the shifting nature of secular political fortunes. Nayak rule eventually gave way to Muslim dominance again, and by the end of the 18th century the city was in British hands. But the physical form and its significance were little affected. The accompanying map shows the city in mid-18th century; the legacy from Viswanatha is clearly visible.

As British rule spread across the country and dictated a common allegiance, places such as Madurai became important more as political centres than as military outposts. Around 1840, Collector Blackburn of Madurai had the walls torn down, and the moat filled in. Small streets and building lots were laid out, and Veli Street, previously just a lane outside the ramparts, became a broad new avenue. The new openness has to be seen as a major change; part of the traditional definition of dwelling-place had been the idea of an encircling boundary with its

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[1]Meenakshi may represent the tradition of a female guardian deity, evident in the city's early history. Although the stories stress Siva's success in overwhelming the goddess during her otherwise victorious conquests, he occupies, today at least, a clearly secondary role in the consciousness of city-dwellers. See N. Subramanian, "The Sports of Siva and the Lady of the City" in The Madurai Temple Complex, pp. 214-216.

PLAN OF MADURA IN 1757.

References.

1. Pagodas.   3. Choultrys.   5. Palace.
2. Mosques.   4. Tanks.   6. Torins.

Yards.

200   400   600   800   1000

Maryan Road

Maranacoy Road

Pagoda of Vicrinope

VIGEE RIVER

Timnevelly Road

Roads to different Villages

From Tiribere

From Nortum

Road
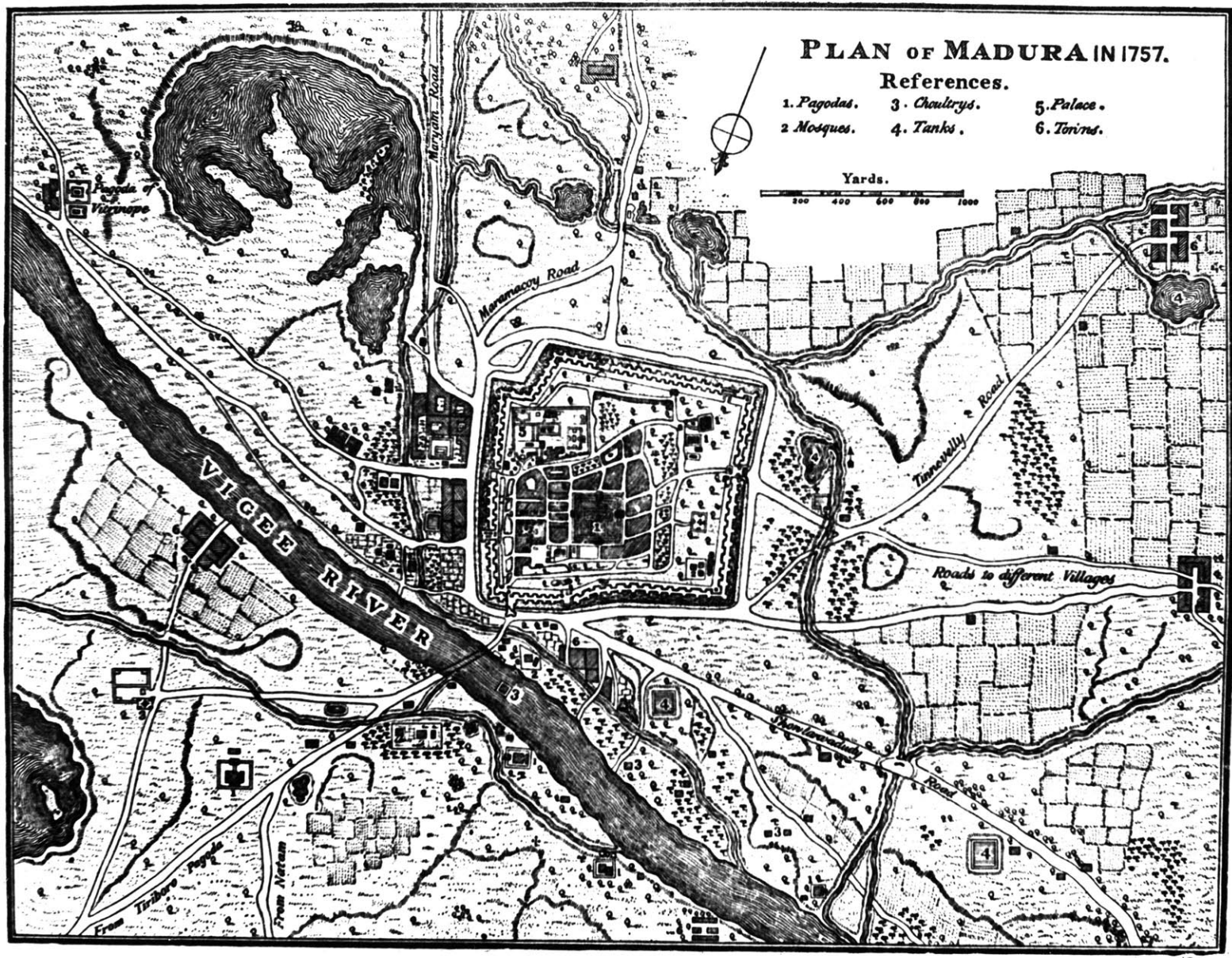
gates.[1] Beyond simple military relaxation, one's impression is of a growing sense of a tame, 'secularized' countryside. There was less need to delineate habitable space.

The internal organization in Madurai, however, maintained, and still maintains, a practical integrity, its important energy radiating from the centre. A map done in 1868 of the whole county still clearly projects the image of the city as an ordered square set in the landscape. And in fact, new edges begin to appear: Veli Street is itself something of a boundary, the last of the concentric paths. A railway line was built along the western edge of the city in 1875, and a branch line to the south in 1902. Their location is not entirely fortuitous, one assumes; the main station is particularly consistent, marking the termination of a western axis. Only to the east was continuous growth possible. This had long been a parti-
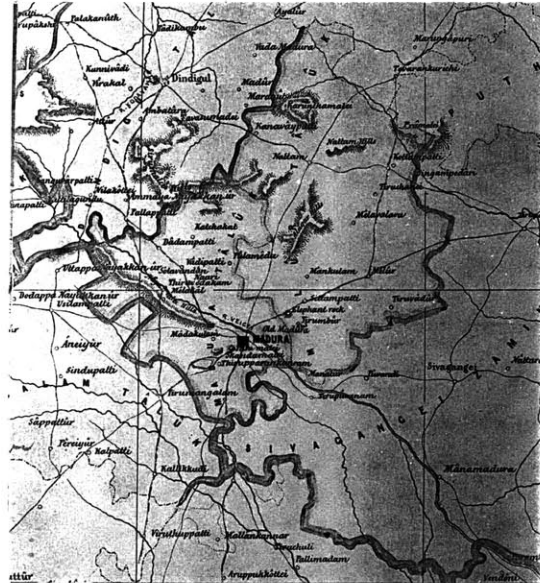
Bhairava Yantra: A seed pod within a circle of eight lotus petals, within a serpent coil, within a city wall with four gates, within another city with four gates and corner-ears added. Illustration from the palm-leaf manuscript of

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[1]The importance of the image is suggested in its use as the standard outline of Tantric meditation mandalas. The form is a diagram of a city wall with four gates. See Śilpa Prakāśa, Rāmacandra Kaulācāra, II 68-73.
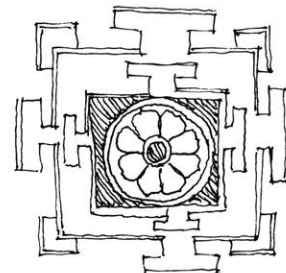
Śilpa Prakāsha, II, 68-73.
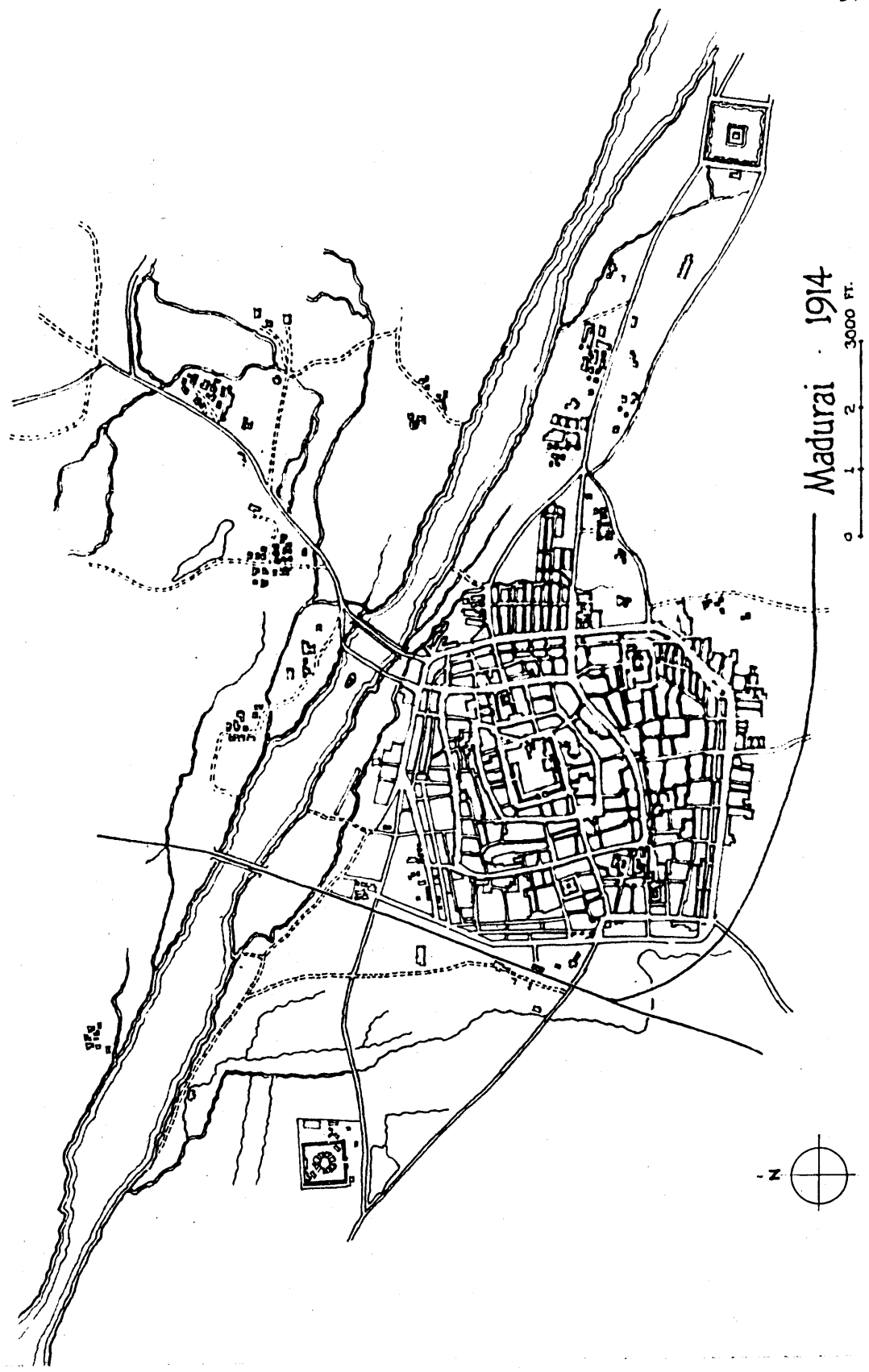
Madurai · 1914

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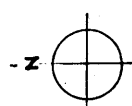
ally-developed ex-urban area, in earlier days a favorite retreat for
scholars and holy men. Tirumala's Teppakulam here provides an axial
link to the old centre. In general the earlier conscious ordering re-
mains dominant. The attached map of the situation in 1914 indicates the
level of continuity.

Population growth has been very rapid in the 20th century, and the
pressure has led to inevitable congestion and expansion. A major bridge
across the Vaigai opened in 1889; extensive development has taken place
on the northern bank. More recent pressure has opened up large areas to
the west, "across the tracks". But in both cases, layout has been dif-
fuse and unstructured, neither reinforcing the old centre nor defining
new ones. In a way this looseness has maintained the significance of the
central city, with its strong imageability. It is this area that deserves
a closer look.

* * *

This historical overview of the city's structural development has
focused on the larger diagram, the shape of the city as it appears in
maps and aerial views. In fact, this is not the way one experiences the
city; it is a three-dimensional landscape through which one moves. To
return to the framework of analysis suggested in Chapter I, the direct
involvement with a place at human scale is as necessary as a conceptual
understanding of its layout if one is to sense the spirit of a place.
Paths, nodes, landmarks, districts - these are all three-dimensional and
personal events. Only in response to such information can one create a
meaningful diagram of their interrelationships, on paper or in one's
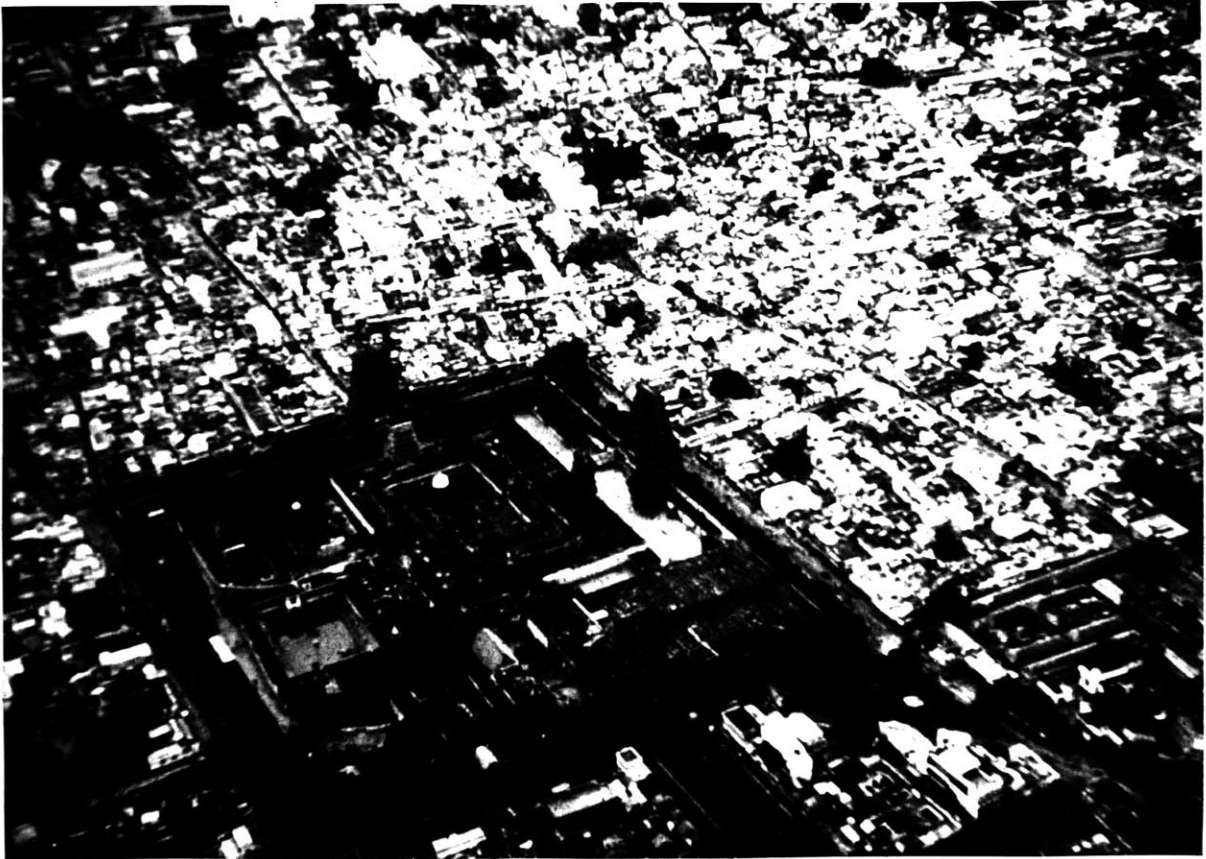
MACNAIR

A rare perspective. Madurai from the air, looking northwest.
Adhi, Chitrai, Avanimoola, and Masi streets are visible.

mind.[1]

Madurai is a rich, intricate environment. A planned city in a sense,
it is nonetheless a surveyor's nightmare (a good sign of individual liber-
ties and natural forces at work). There are few straight streets of signi-
ficant length anywhere in the central area; local events and occurences
have their own logic, and disturb and distort any larger pattern. To
gloss over these idiosyncracies is to miss the significance of how a vāstu-

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[1]See Kevin Lynch, The Image of the City.

mandala functions. Its purpose is to explain, to harmonize, to protect; only indirectly does it constrain or dictate. In physical terms, this means a primary definition in terms of use - activities and interrelationships - to which the form responds.

A sensitivity to topographical features is suggested in the Tiruvilaiyādal Purānam's description of Madurai's early fortifications. Presumably in part a justification of the contemporary Pandyan ramparts, they are attributed to the movement of a giant snake (see p.49n above). Venkatarama Ayyar, in his interpretation, goes on to say:

> The walls of the fort were constructed as the natural
> topography of the land would permit. With the river
> on one side, mechanical symmetry of the lay-out for
> the walls would have to be purchased at too high a
> price.... This plan thus admitted of several deflec-
> tions and zig-zag shape. The city of Madurai which
> was thus encircled by walls which did not answer to
> mathematical exactness was henceforth called Tirumu-
> dangal or the beautiful city surrounded by zig-zag walls.[1]

Viswanatha's walls were hardly an exact square either, as can be seen in the 1757 map.

Other distortions happen internally. Tirumala Nayak's palace even today is a significant interruption of the city fabric. It used to be considerably larger, before Tirumala's grandson carted a

The palace as seen from the temple.

[1] Town Planning in Ancient Dekkan, p. 37-38.

lot of it off to Tiruchirapaalli; the entrance was perhaps near the south-
east corner of Masi Street. The huge establishment could exist between
Masi Street and the old wall (now Veli Street) without interrupting them
only because they both deflect from any strict rectilinearity (see the
1757 map). In the southwest corner, the large Perumal Temple creates its
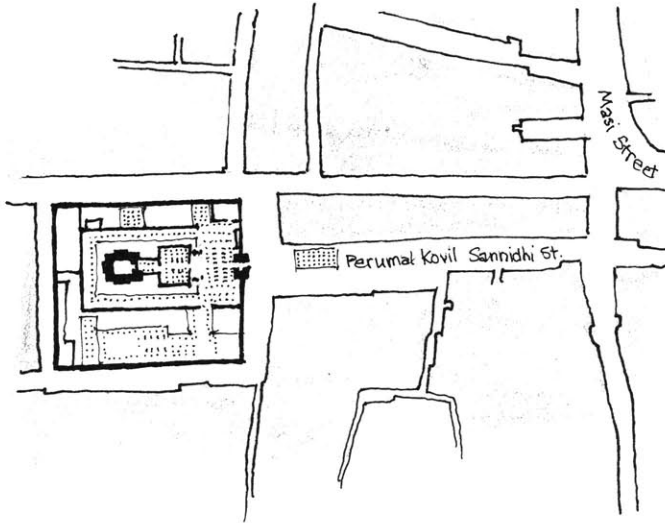
own small-scale street network:
four car-streets surrounding
the temple, and a major road
along the east axis from the
main temple entrance.

Much more intricate is the network of pathways within the larger
divisions of the city. These block interiors have many places where the
narrow lanes open up and small neighborhood centres exist, much quieter
than the bustle of the main commercial arteries. Numerous wells define
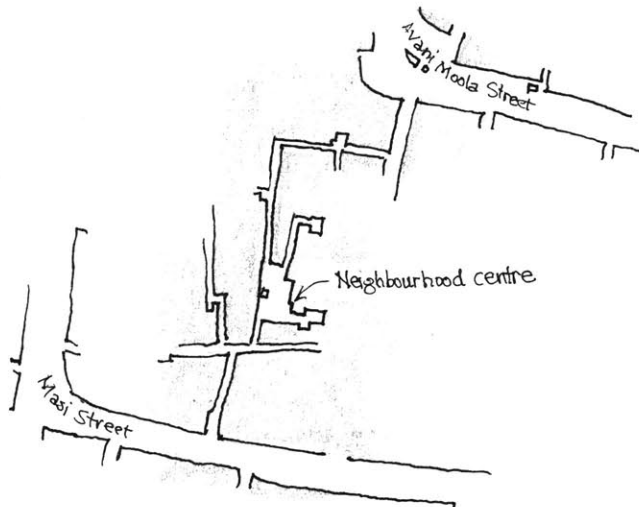
small activity centres. These residential enclaves in fact retain an

almost village-like character. Paul Dettman, in a study of 'cheris'

or subsistence-level neighborhoods in Madurai, says of Indian cities,

> Village type housing enclaves are to be found in
> open space between substantial residential, com-
> mercial and industrial buildings. Live stock,
> everything from ducks to donkeys, are kept by
> these "urban villagers", even in the largest ci-
> ties. Cows and goats can be seen grazing on
> whatever sprigs of grass they can find.... As a
> matter of fact, it is from these cattle that the
> cities obtain the bulk of their milk supply and
> the "urban villagers" one of the main sources of
> their income....
>
> The "city" and the "village" are not separated
> from each other so as to form two distinct en-
> claves; they are inextricably mixed together to
> form the hybrid Indian urban settlement.[1]

One way of seeing these do-
mains scattered through the
city is as a remnant of the
process of city building as
village-aggregation re-
ferred to earlier, which
becomes imbedded in the
texts as a method of com-
bining disparate groups,

'Rural' enclave between W. Avanimoola and
W. Masi Streets.

each retaining its local identity. In Madurai, these are the areas most

likely to retain caste distinctions.

> A hybrid "rural-urban" style of Indian city life is not
> just a matter of appearances. When one goes below the
> surface and probes the underlying attitudes and mores

---

[1]Paul Dettman, Urban India - Abstract and Concrete, unpublished paper.

> of the working class residents, he finds those of the
> villager.... In the fundamental areas of family and
> social life, village ways, based primarily upon caste
> practices and traditions, continue to exercise a pre-
> dominant influence.[1]

The larger streets, the 'urban' corridors of the city, have their own char-

acter. Their gentle meandering softens the momentum of movement along

them. This relaxation occurs especially at the corners of the large con-

centric avenues. An example is the northwest corner of Masi Street, where
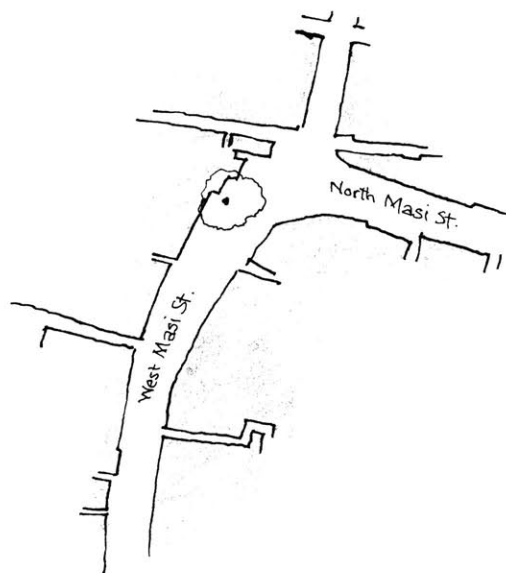
an enormous tree (identifiable in the aerial view on p. 59) creates a

sheltered environment. In the plan one can see how smaller paths of

movement are affected by the shift in direction at this point. Many of

the other corners are places for special events - the circle at southeast

Masi, the parks at southwest Avanimoola, and northeast Chitrai, and so on.

---

[1]Dettman, Urban India.

The temple complex itself is not confined within a rigid square. Tirumala's Pudu-mandapam spills out into the city fabric, and amidst the elaborate carvings are to be found tail-

The Pudu-mandapam.

Base of the Raya-gopuram
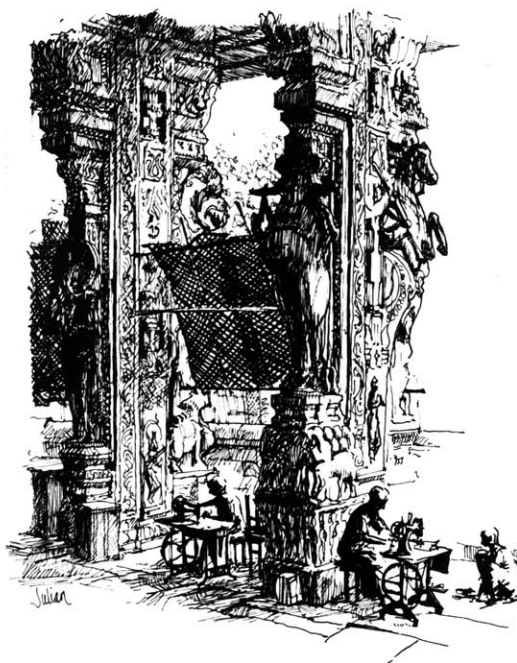
Meenakshi Temple: noon hour

ors, brass merchants, and booksellers. Even further out the base of the unfinished Raya-gopuram gently suggests the encroachment of sacred space. Secular use, in turn, invades the enclosed temple compound; numerous small shops exist within, and during the hot hours of the day it is a cool, relaxing place to sleep. The temple environment, like the city, is a wealth of beautiful and often surprising details within the larger structure. The two

central shrines with their surrounding
courts, the adjacent Golden Lily Tank,
and the numerous mandapams and go-
purams create a rather overwhelming
spatial array; the overall size of the
place is not oppressive only because
at the small scale each of the pieces
operates within its own logic. The
relaxed accomodation of a double
sacred focus is perhaps the ultimate
gesture of a general liveliness.
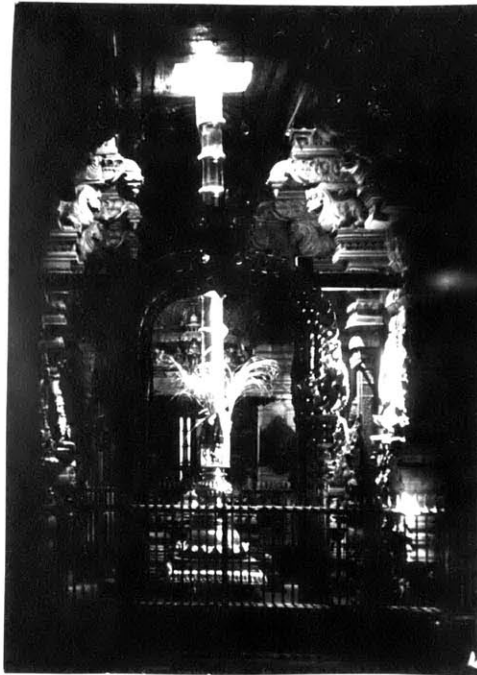
Flagstaff in front of the Siva shrine.
It was gilded by Krishna Virappa
Nayak in the 16th century.

Only over time does this variegated urban environment begin to reveal
its larger structure. There is no attempt to force the issue; major
streets and axes are not acknowledged with uniform facades or controlled
vistas. In fact, the absence of concern for visual perspective is a key
element in one's response to the place. There is nowhere within the pub-
lic realm that one gets an overall view of the city's layout. Even
smaller elements are not defined in this way. The bends in the streets
hide their extent; the small streets radiating out from the gopurams
twist and turn, preventing a distant view of temple entrances. Francoise
Choay has remarked that the use of visual perspective begins to introduce
a new objectivity into urban design and a loss of experiential space; at
this point a transition from place to space occurs. With remarkable con-
sistency, Madurai unfolds its secrets only through moving rather than
stationary encounter. It is true experiential space in Choay's terms.

Like mandalas used in meditation, the city diagram is not itself an object of attention; it is something to be imbedded in one's consciousness, a vehicle for understanding.

If one approaches the city from outside, the tall gopurams dominate the landscape and provide an initial sense of orientation. But the path to the centre is a slow one. The grain of the city is circular; one has to work across the grain to move inward. The sense of place is encountered at the outset; this is clearly an inhabited domain. For a permanent resident, concentric circulation dominates; it moves through the secular zone of the city while only indirectly acknowledging the sacred centre. Swami Sannidhi Street, a typical radial axis, gets narrower and narrower as it moves toward the temple, encountering one major concentric route after another. Each one reduces its momentum. Other routes to the centre are even more radical juxtapositions, small lanes getting you across from one broad street to another. The potential subordination of radial streets is a feature perhaps unique to the planning tradition of India; so also the multiple use of concentric avenues.

By itself, the simple concentric ordering would leave one with an uneasy sense of a rotating field. But just as the mandalas of the texts are locked in place by specific deity allocation, so Madurai exhibits the analogous distribution of trade groups, giving a cross-grain identity to the pattern. South and East Chitrai Streets house many of the cloth merchants, East Avanimoola Street the paper merchants, South Avanimoola Street the goldsmiths and jewellers, East Masi Street the grain merchants, and so on. Even the automobile parts dealers congregate, on North Veli

Street. Each trade group affects its environment, and this demarkation
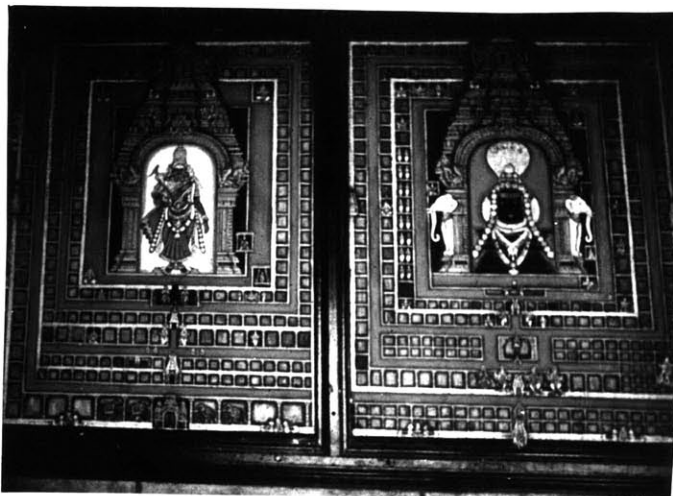of territory stabilizes one's sense of orientation.

At the very centre, the
enormous gateways of the tem-
ple and the architectural
splendour within confirm the
hierarchy suggested in the
secular zone. Even here, the
layering continues. Adhi
Street, the outer court, is
away from the fanfare of se-

Adhi Street

cular life, but still an outdoor space through much of its length. Sever-
al more concentric courts, suggested pathways for circumambulation, sur-
round each deity. The intensity increases at each layer; in the sanctum

D. HUDSON

Temple wall painting, showing the
Vimanams of Meenakshi and Sundareswarar,
each with its surrounding courts.

sanctorum architectural
ebullience gives way to the
sights and sounds of the
puja itself.

To test the reality of the diagram, the vāstu-maṇḍala imbedded in the
landscape of Madurai, I asked some permanent residents to draw a quick map

of the city. They drew the tem-
ple first, with four gateways;
then the eastern and western
axes; and then the concentric
squares of the streets. The
curves and bends of the streets
are straightened, the cardinal
orientation is exact, the pro-
jection of two parallel eastern
streets from the shrines of
Meenakshi and Siva is ration-
alized into a single axis. The original impetus of the planning reemerges

intact.

Chapter VII
MADURAI: FESTIVAL PROCESSIONS

The clearest expression of the relationship between the sacred dia-
gram and the secular landscape comes from the city's religious festivals.
In a striking way, the ritual travels of Meenakshi and Sundareswarar
(Siva) through their urban domain captures the subtle essence of vāstu.
These festival processions occur at the point of intersection between
sacred and secular, diagram and representation, the general and the parti-
cular, time and space. They are real, alive, active, full of energy, but
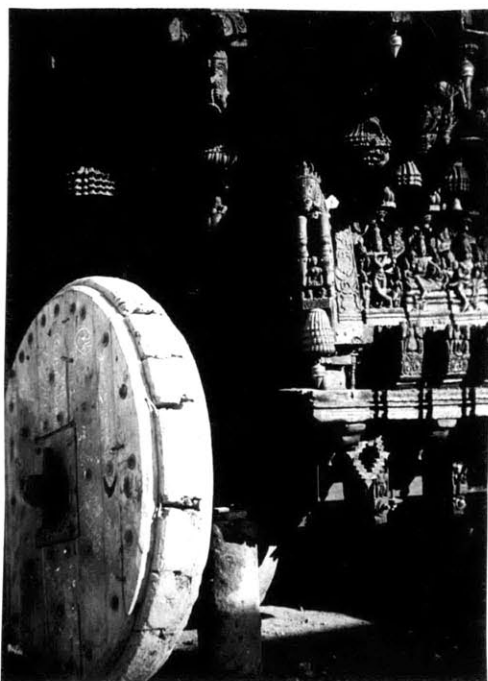
they have no intrinsic physical di-
mension. Every month there are pro-
cessions, and each has its local
identity. But like one's own ex-
perience of the place, they add up
over time. By the end of the year,
the deities have drawn a map of the
city, and the vāstu-maṇḍala is made
real. True to any realisation, the
topology is what emerges. The paths
that are traced draw a sacred geo-
metry, but not a literal rectiline-
arity. Here is the evidence of

Meenakshi and Sundareswarar's wanderings at the end of the one-year cycle:
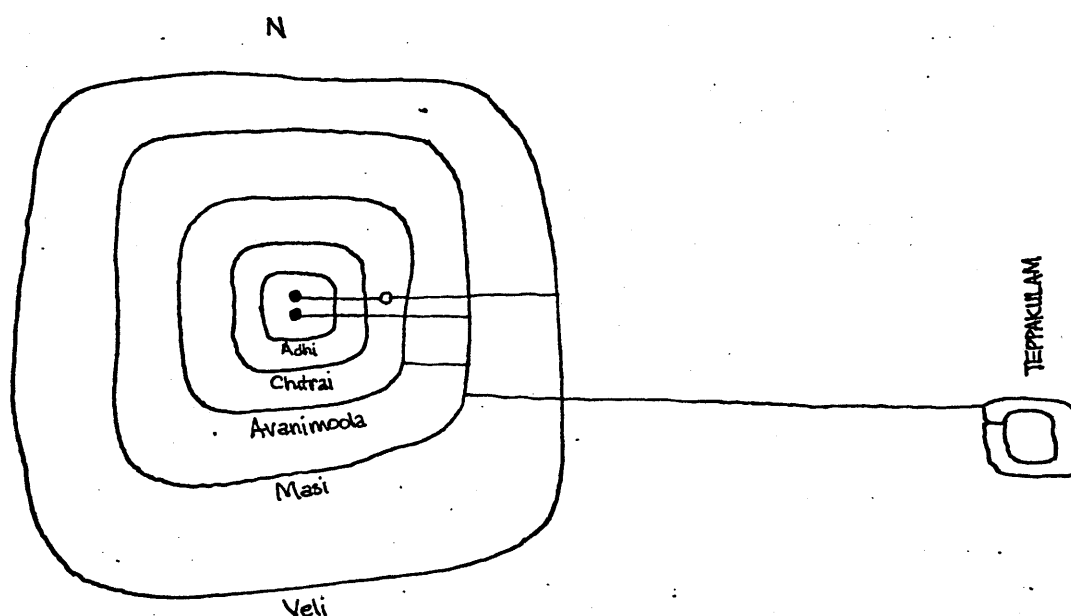
The stone Siva-lingam and the idol of Meenakshi stay put within the inner sanctums. But separate processional deities are taken out on various _vahanas_, or vehicles. Lunar and solar calendars seem to overlap in fixing dates; in general, the first nine days of a month are processional days, and the tenth the occasion for a special festival if there is one. The names of the concentric streets (Adhi, Chitrai, etc.) are the names of the Tamil months associated with their respective festivals.

In Vaikasi (May/June) the processional deities are installed in the Pudu-mandapam, the extension of the temple eastward into the city fabric. The bustle of the normal occupants is interrupted for ten days in recognition of a sacred claim to this space. Or, in other terms, the deities

leave the sacred precinct, that strongly-defined enclosure with its
enormous walls and gopurams, and breathe the air of profane (pro-fanum)
space. In the evenings, at sunset, they are taken in procession along
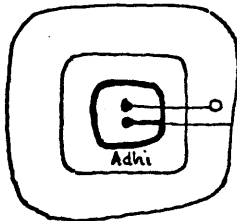Chitrai Street.

PUDU-MANDAPAM

Chitrai
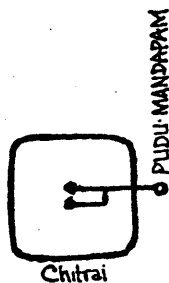
In Ani (June/July), the deities reside within the temple. In Adhi (July/
August), Meenakshi is taken in procession along Adhi Street, within the
temple wall.

Adhi
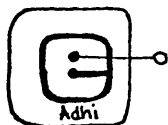
In Avani (August/September), Siva's part in a joint rule of the city is affirmed, after Meenakshi has ruled alone as queen for the four months after her coronation in Chittrai (see below). The procession follows Avanimoola Street.

Avani-moola
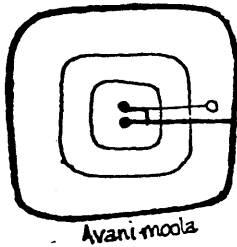
In Puratassi (September/October), the Navarathi ('nine-night') festival is celebrated, and the deities again remain within the temple. In Japassi (October/November), Meenakshi assumes the form of a little girl, and the procession follows Adhi Street.

Adhi

In Kardikai (November/December), again the route is along Adhi Street.
In Margali (December/January), Meenakshi alone returns to grace the
Pudu-mandapam, and is taken in the evenings along Chitrai Street. And
in addition, there is a single circumambulation along Veli Street, the
path that used to be outside the city walls. It was such a path that
Kannaki and Kovalan followed in their day, but it seems unlikely that
the deities would have ventured this far afield before 1840, when the
walls were torn down.
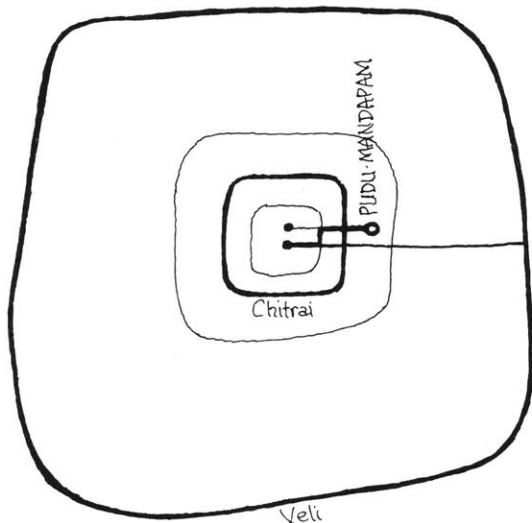
Even this boundary is broken through the following month, when a major
festival involves the pro-
cession of the deities
east beyond the city li-
mits to the huge Teppa-
kulam. This is the month
of Thai (January/February).
On a specially constructed
float, or teppam, the
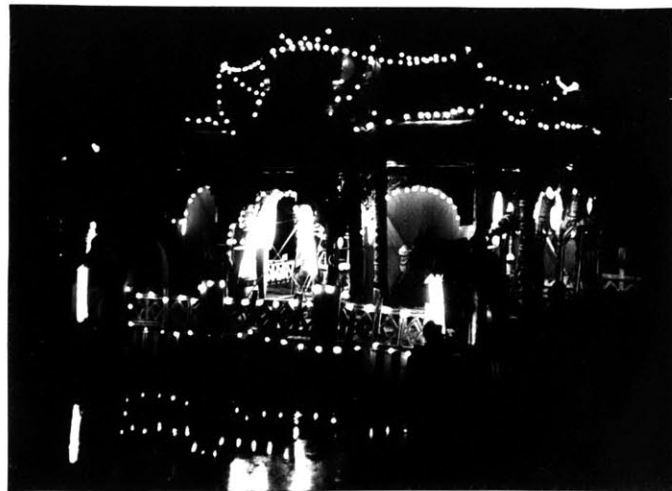
Teppam

deities become waterborne for an evening and move slowly clockwise around the tank (kulam). On the preceding days, the processions follow Chitrai Street.
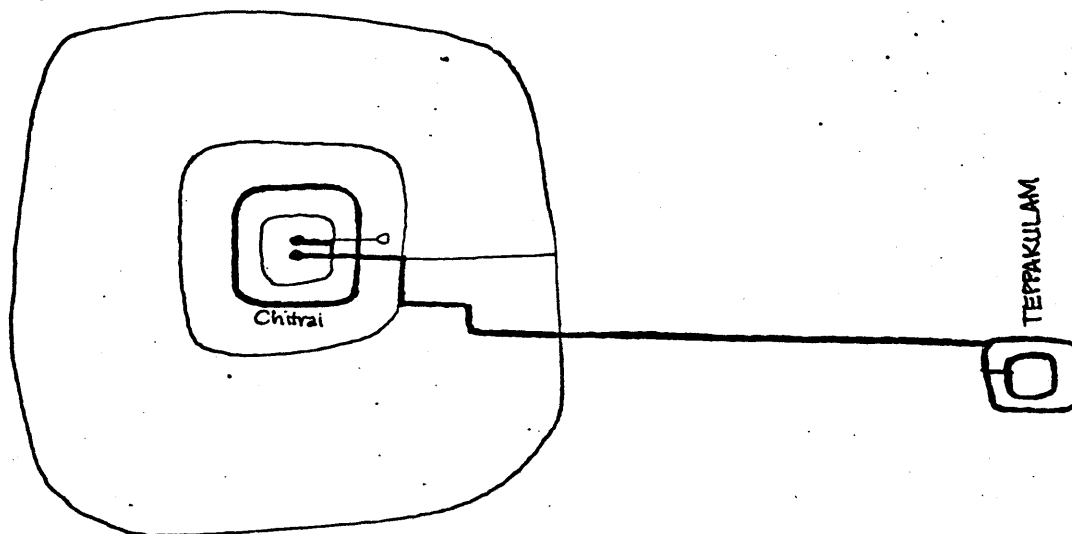
In Masi (February/March), the festival again is on Chitrai Street. There is a discrepancy here between the month and the street name. Apparently this was originally the occasion for the large car-festival on Masi Street, but Tirumala Nayak interchanged the Chitrai and Masi festivals to allow the popular Alagar festival in the month Chitrai to coincide with the car-procession. So the names remain out of phase.[1]

_____
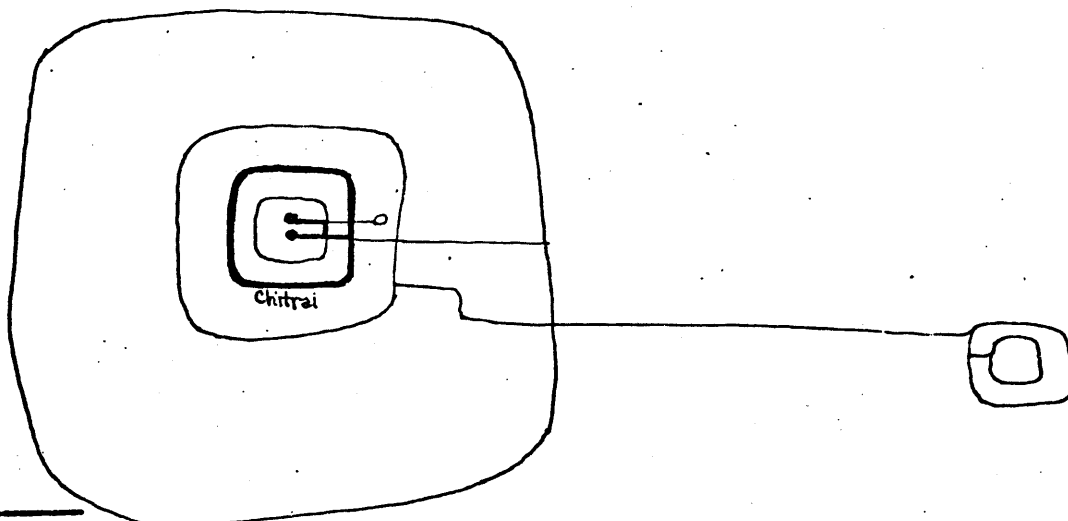
[1]Dennis Hudson, "Two Citrā Festivals in Madurai", pp. 38-39.

In Panguni (March/April), the festival once more follows Chitrai Street.

*   *   *

In Chitrai (April/May), the first month of the Tamil year, the cycle reaches its climax. The city is inundated by well over a quarter of a million pilgrims, drawn from the surrounding countryside. The events in fact involve two traditions, the


L. DART

Chitrai Festival crowds in the dry riverbed.

Alagar Journey festival and the Meenakshi-Sundareswarar Wedding festival.
These over time have become fused in the popular mind as simply the
'Chitrai Festival', but the Wedding festival is of principal interest
here. Its full duration is twelve days, but the most significant events
are those toward the end:

> on the eighth day, the coronation of Meenakshi
> as the ruler of the city.

> on the ninth day, the acknowledgement of her
> dominion over the eight directions. The deity
> is taken out to Masi Street, and moves clockwise
> around the city, defeating in turn Indra in the
> east, Agni in the southeast, Yama in the south,
> Nirṛti in the southwest, Varuṇa in the west,

Vāyu in the northwest, Kuberan in the north, and

Iśāna in the northeast. Her _digvijaya_ is thus

accomplished.[1]
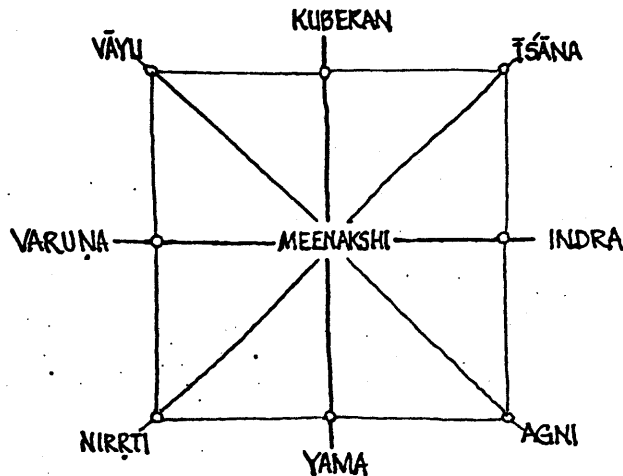
Śiva (Iśāna), however, overwhelms the goddess in

turn, as she recognizes in him her future husband.

Plans are made for the divine marriage, and

Meenakshi returns to her _koyil_.

On the tenth day, an intense climax in the perfor-

mance of the wedding ceremony. It is celebrated

in the special wedding maṇḍapam inside the temple

---

[1]Masi Street in this context defines the outer limit of a maṇḍala,
'a ritually pure realm'. There is some ambiguity between city
walls and processional paths in terms of delineating the sacred
domain. The Paiśācha rounds of the texts (see p. 26 above) can
be seen as representing this intermediate zone; in a village in-
habited primarily by Brahmins, this area is to be occupied by
Vaiśyas and Sudras. "In some Tamil villages the temple cars are
pulled around the boundaries of the _agrahāra_ in which the temple
is located and within which only Brahmans are usually allowed to
live" (see Dennis Hudson, "Two Citrā Festivals", pp.2-3 and n.8).
The importance of the association of boundaries with paths of
movement is seen in the curious practice of making village li-
mits by following the beat of a female elephant. See Nilakanta
Sastri, The Pandyan Kingdom, p.126.

compound, after the deities in full regalia have
processed on Chitrai Street.

on the eleventh day, the major processional event
of the year. The newly-married Lord and Lady of
the city are taken together out to Masi Street,
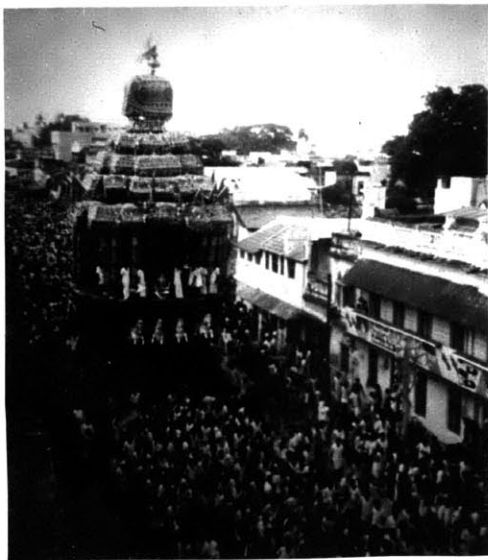
B. HARMON

Temple-car on W. Masi St.

and there placed on enormous
temple-cars (rathas). These
chariots, with elaborately
carved wooden bases and tem-
porary superstructures, tower
forty to fifty feet, and are
pulled by hundreds of devo-
tees. Thousands more crowd
the street. Slowly, somewhat
jerkily, the deities and their
retinue make a triumphal journey through their secu-
lar domain.

Masi
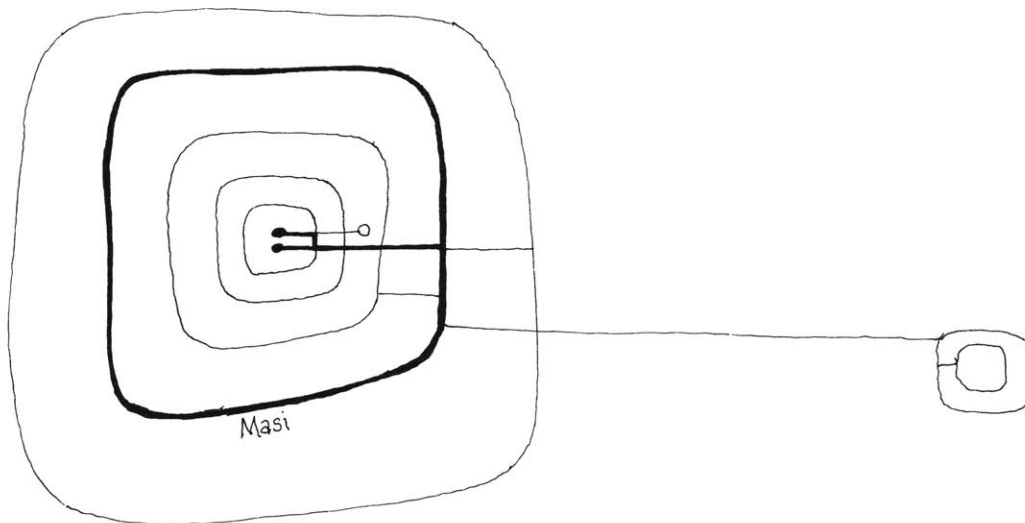
In a metaphorical as well as a literal sense, everything comes full circle. The spatial gesture is there, reaffirming a secular - controlled - space in the universal landscape, and marking its extent in the four cardinal and four intermediate directions. The temporal gesture similarly defines and controls a random flow, and gives it a structure; with the other festivals, the rhythm of a yearly cycle is established. And just as the Masi Street procession does not trace an exact geometrical square, but acknowledges the conditional aspect of human activity in the landscape, so the cycle of the year is not simply a general scheme, repeatable anywhere; it is infused with the local condition, the history of this city in time, the Puranic understanding of its origins and claims to glory.
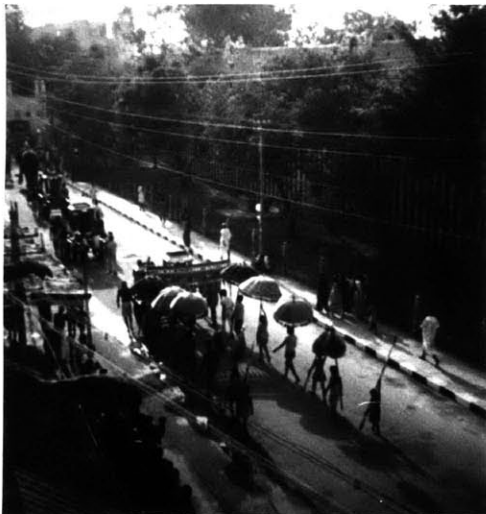

B.HARMON

Procession on Chitrai St.
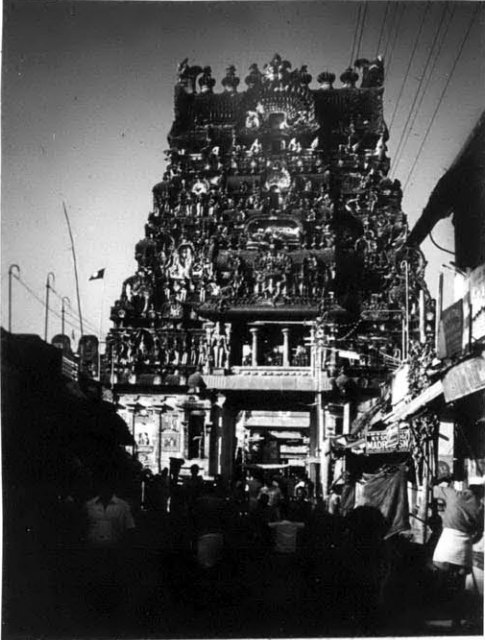
Chapter VIII
OTHER SETTLEMENTS

Madurai seems a relatively isolated example of an Indian city type.
Comparisons can be made with some other towns that share certain of its
qualities; none of these seems to have quite its combination of general
order and specific latitude.

As a 'temple-city', Madurai is often associated with Srirangam. In
diagram form, the cities share a great deal. The annular courtyards of
the large central temple complexes continue into the structure of the
town. The cardinal directions fix the diagrams in space, although in
Srirangam the dominant axis is to the south. The main difference is that

MADURAI
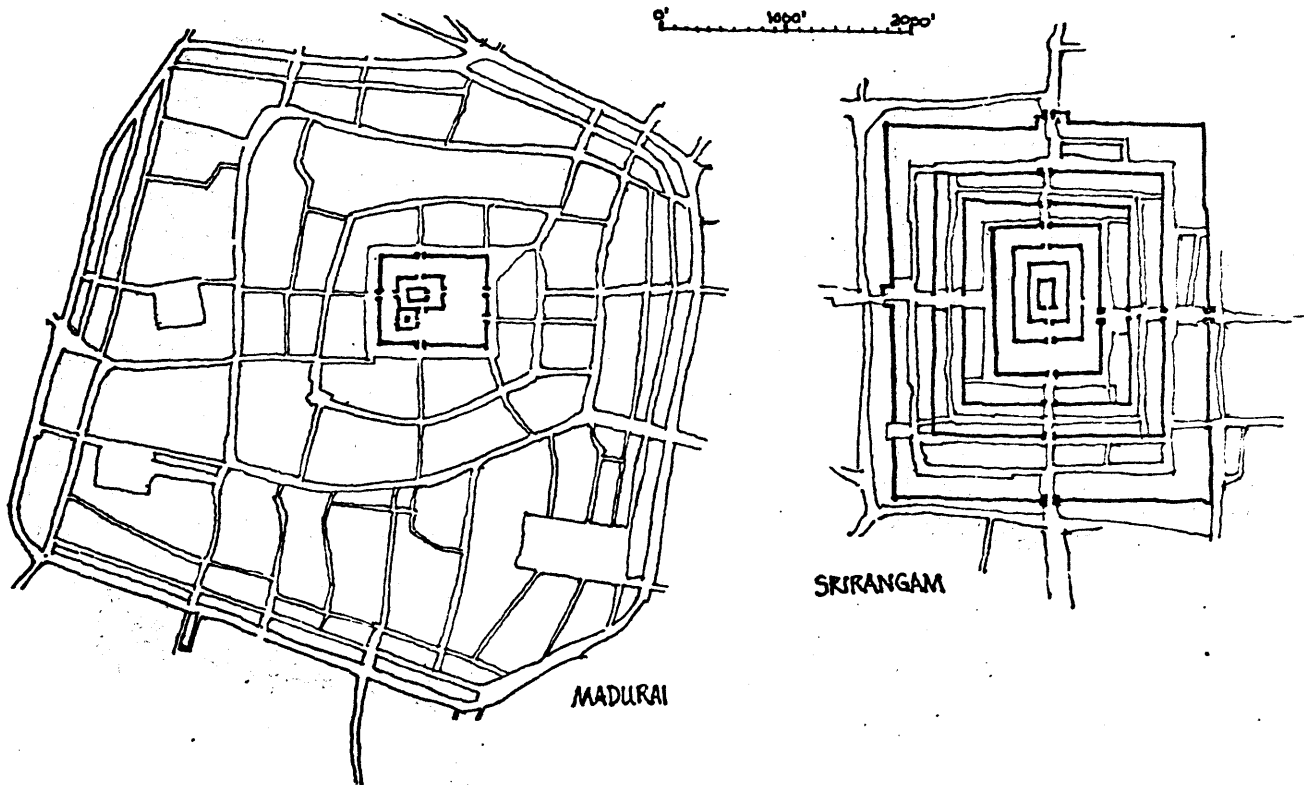
SRIRANGAM

Srirangam is a direct translation of these diagrammatic concepts. The
vāstu-maṇḍala becomes three-dimensional, with much of its geometrical

purity. Within the central shrine, such realization makes sense as the definition of sacred space. "The form of the Prāsāda is the monumental embodiment of the Puruṣa."[1] Bu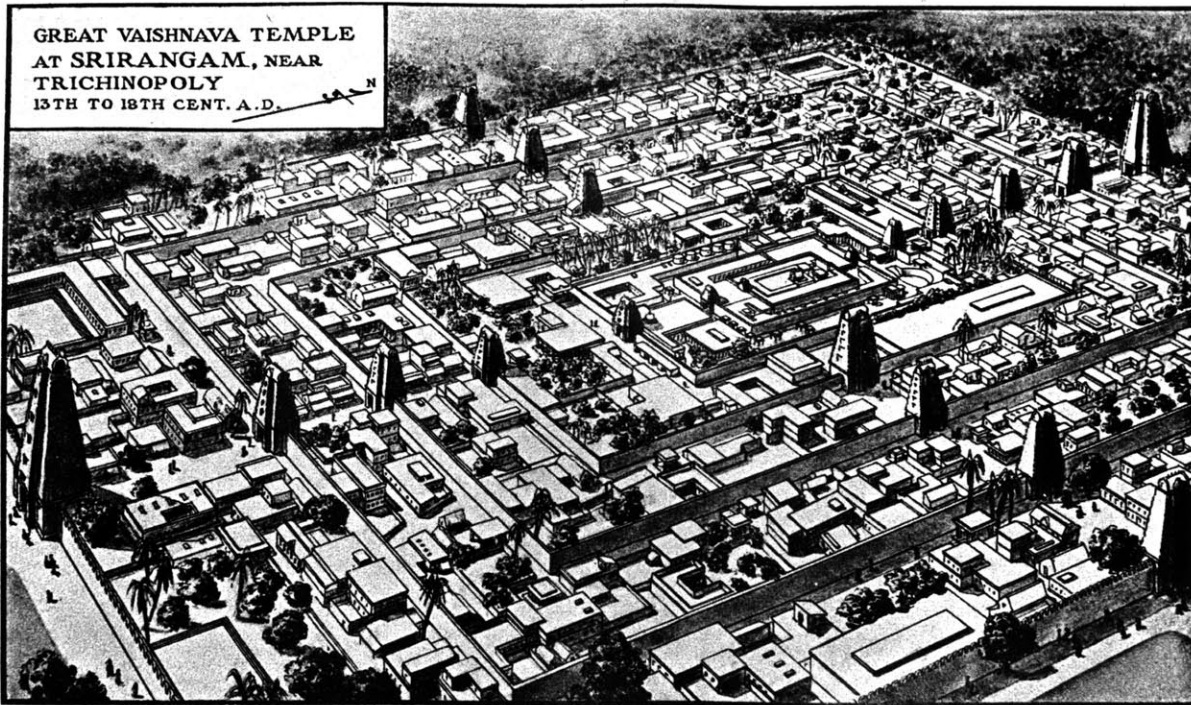t in the outer rings of the town, the rectilinear geometry concretized in the large concentric walls becomes oppressive for an urban space. The pilgrim seems more important than the resident; his passage to the centre, even within the secular realm, is marked by a succession of splendid gopurams on axis. The radial route is thus elaborated even though it goes against the grain. Elsewhere between the walls there is little chance of local vitality. The houses appear more as infill than as a natural growth.

The Śilpa-śāstras outline the rules for temple construction, and indicate that a central shrine should be surrounded by five concentric courts; each with its walls and gateways. The largest gateway is to be the one on the outermost perimeter. In addition, there are passages that suggest two more courts with concen-

Sequence of gopurams: south axis

One of the concentric residential streets. A portion of the wall is visible on the right.

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[1] Kramrisch, The Hindu Temple, p. 360.

GREAT VAISHNAVA TEMPLE AT SRIRANGAM, NEAR TRICHINOPOLY 13TH TO 18TH CENT. A.D.

From Percy Brown, Indian Architecture. The immense gopuram at the lower left was never completed; the whole sketch is a somewhat idealized representation.

tric residential streets:

> Beyond that (i.e. the large gate of the fifth court)
> on the surrounding space should be constructed the
> sixth, and the seventh courts (śālā). There should
> be (ordinarily) two courts (prākāra) and surrounding
> roads for the dwelling houses of men.[1]

Srirangam can be seen as an embodiment of this approach, and therefore fundamentally a large, inhabited temple complex; Madurai, in contrast, corresponds rather to the notion of a true village or town, much more indirectly secured by a sacred geometry.

Even in predominantly secular schemes the geometry may become over-

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[1]Mānasāra Śilpaśāstra XXXII, 83-84.

bearing, losing the gentler impulses that originally stimulated it. The most frequently illustrated example of Śilpa-śāstra application at the city scale is Jaipur in the Rajasthan district of central India. A relatively recent project, it was laid out by a Bengali Brahmin, Vidhyadhar Bhattacharya, in the 18th century. Here, the _Prastara_ village scheme seems to have been used. As the texts describe it, one, two, or three main roads cross from east to west and north to south, with an encircling boulevard. The _padas_ or blocks are further subdivided, but with varying densities according to the rank of the inhabitants. As it was realized in the landscape, the city shows an extremely accurate orthogonal geometry of nine major divisions. But the maṇḍala is far from intact. In the northwest corner, a hill cuts across the site, and the scheme is simply interrupted. The whole northern edge disintegrates into a random pattern. Further, an extension equal to one of the nine parts is added to the southeast.

Parts of the order are there: the central _Brahmasthāna_ becomes the royal palace, and a prescribed distribution of trade groups was carefully followed, setting a pattern which remains to this day. But geometry rather than topology is dominant, and the chance seems to be lost for integrating the enlivening character of the local condition. Where the local condition supersedes, as in the topography of the northwest, it has a negative effect. Circumambulation is not possible, and in general there is very little annular continuity. Even human intervention is cautioned against: "The strictest control of the elevational treatment of the houses was exercised as regards the height, fenestration and even colour treatment, thus safeguarding the harmony and unity of the city as
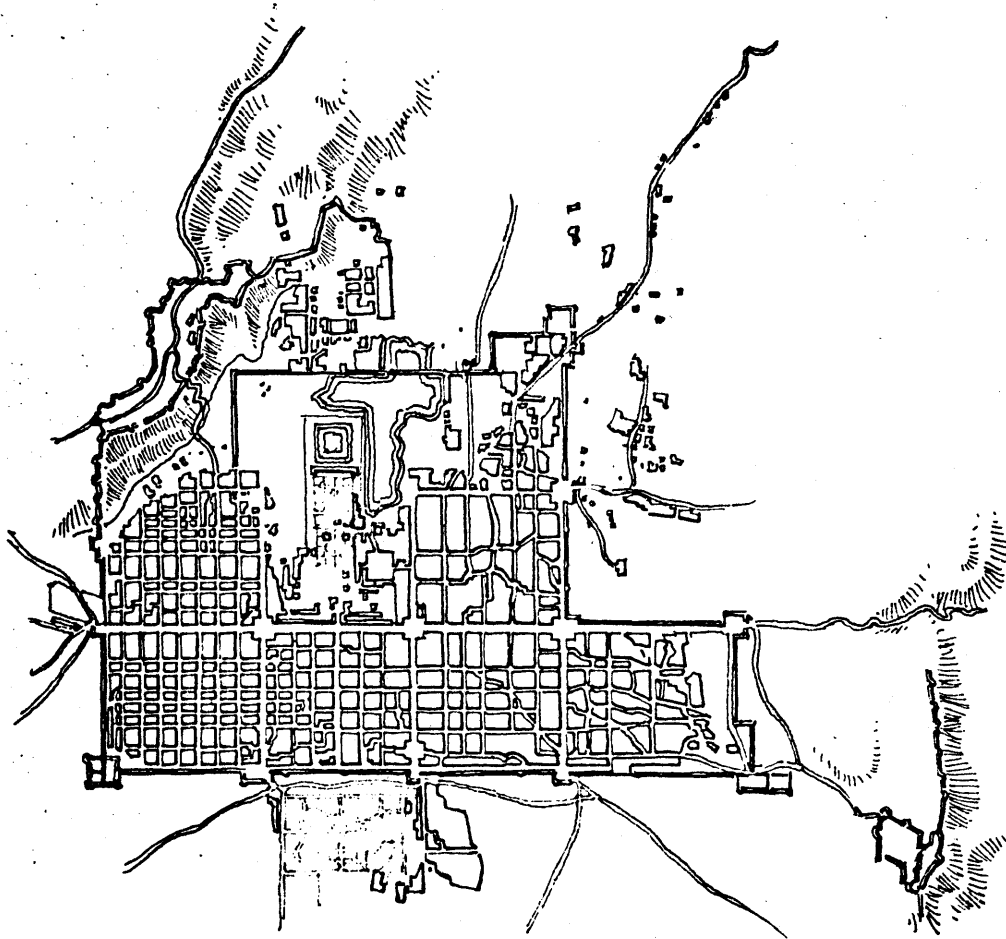
Jaipur

0 1 2 3 4 5000 FEET

a whole."[1] The pattern of Madurai seems a less obvious but more inter-
esting interpretation of the tradition represented by the Śāstras. The
late date of the city's layout, and the existence there of a celebrated
astronomical observatory, perhaps suggest an emerging new world order,
with its own interpretation of the cosmos.

My own limited research has been confined mainly to Madurai. What
is needed is a much more comprehensive survey of existing town and village
layouts, particularly in the South, with a view towards better understand-
ing the facets of this tradition. Two small towns that deserve to be
briefly noted are Suchindram and Tirukkalukunram, both in Tamilnadu.
Suchindram, like Madurai, is built on the south bank of a river, on the
sort of gentle northeast slope recommended in the texts. It is a small
place, dominated by the Sri Sthanumalaya Temple. The temple complex ex-
hibits the familiar concentric pattern, with a large colonnade just inside
the outermost wall. Outside the temple, enclosing both it and a good part
of the town, is the broad car street. The temple is offset to the north-
east within this space, but the topology is basically intact. The strong
eastern axis of the temple is projected through the village as a wide
street leading eventually to the river's edge.

Palayar River

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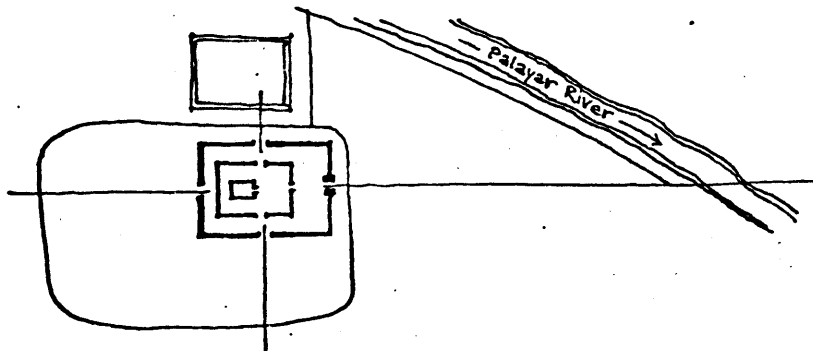
[1]Claude Batley, The Design Development of Indian Architecture, vi.

MADRAS

Thirukkalukunram

KAVERI R.

Srirangam

VAIGAI R.

MADURAI
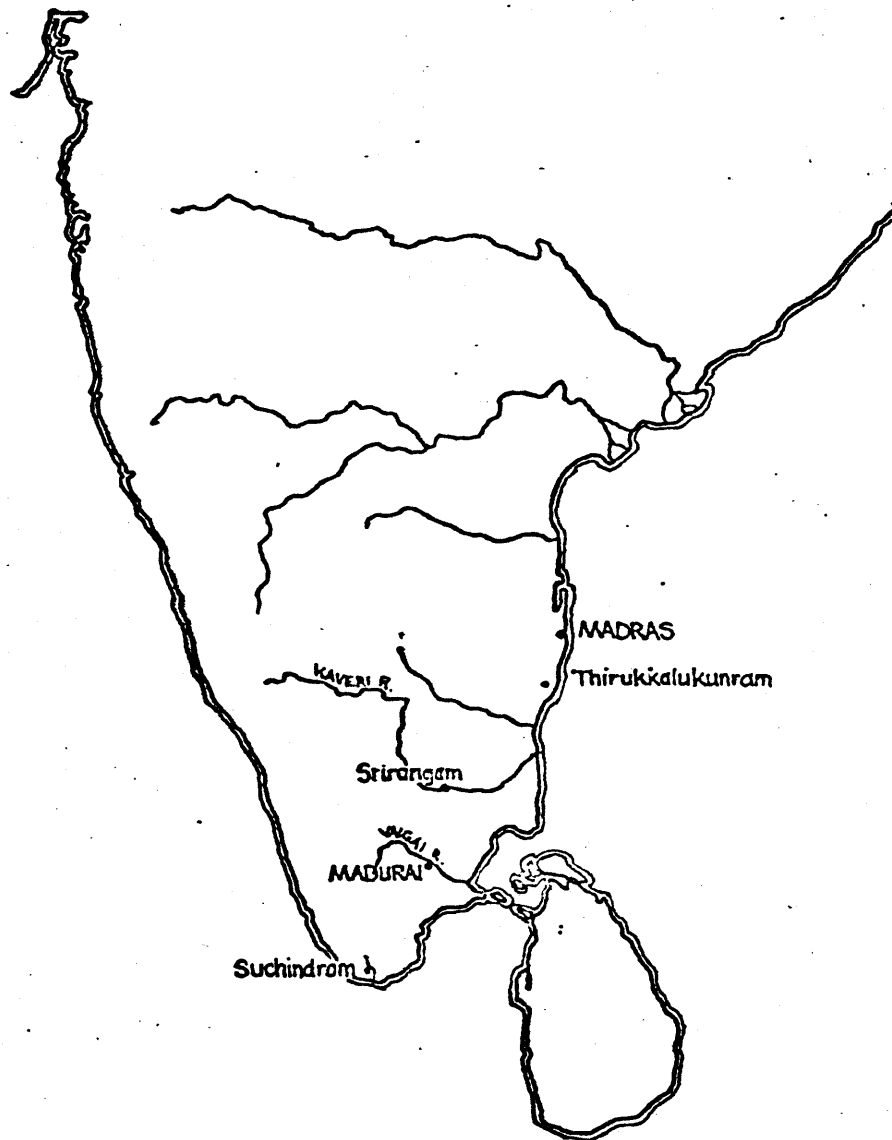
Suchindram

South India

Suchindram, like Madurai, is on the right bank of a river.
This is true of many of the traditional towns. All proper
circumambulation moves clockwise, the right side, ritually
pure, towards the centre. In the case of a river, the
flow of the water acknowledges this pattern.
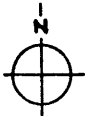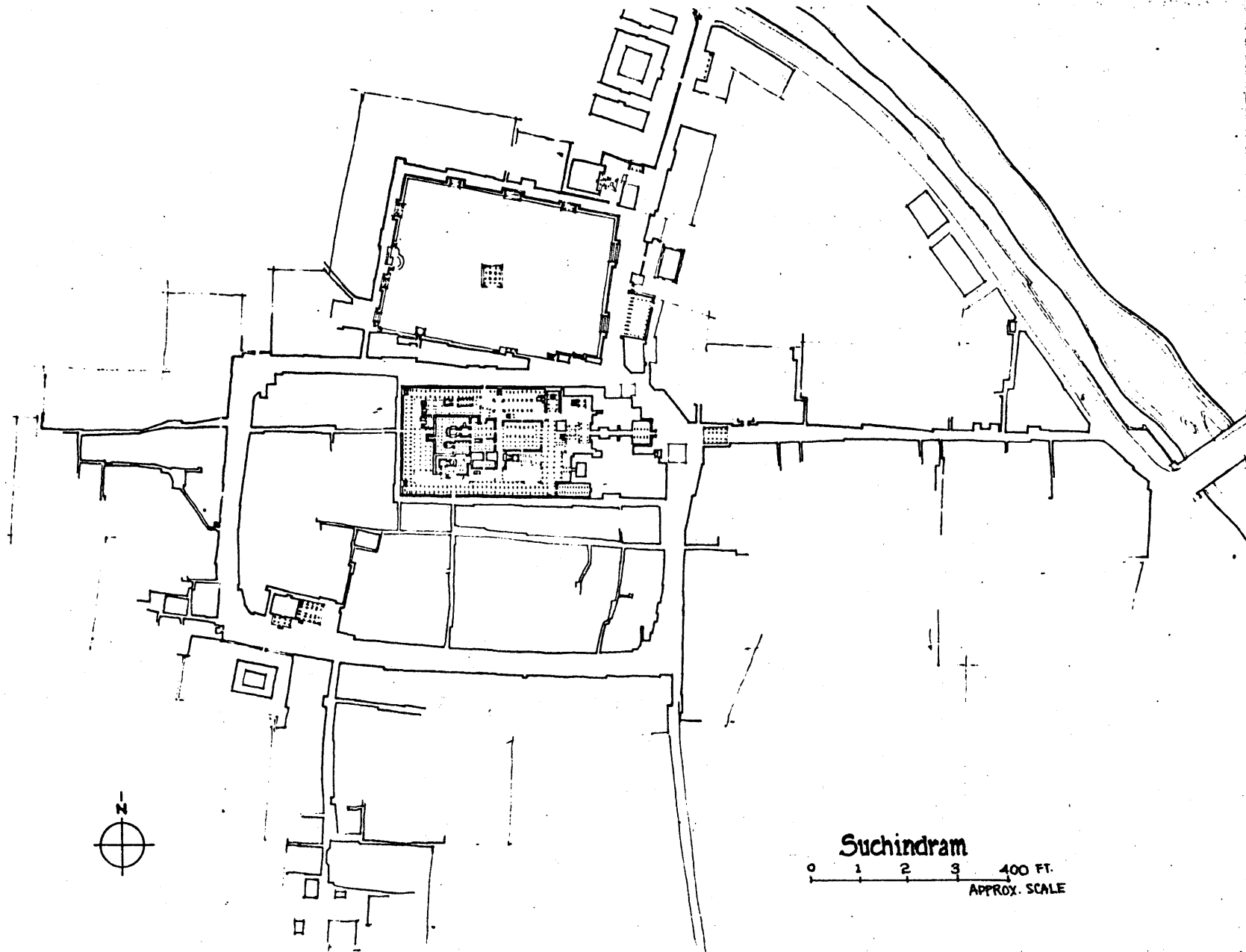
Suchindram

0 1 2 3 400 FT.
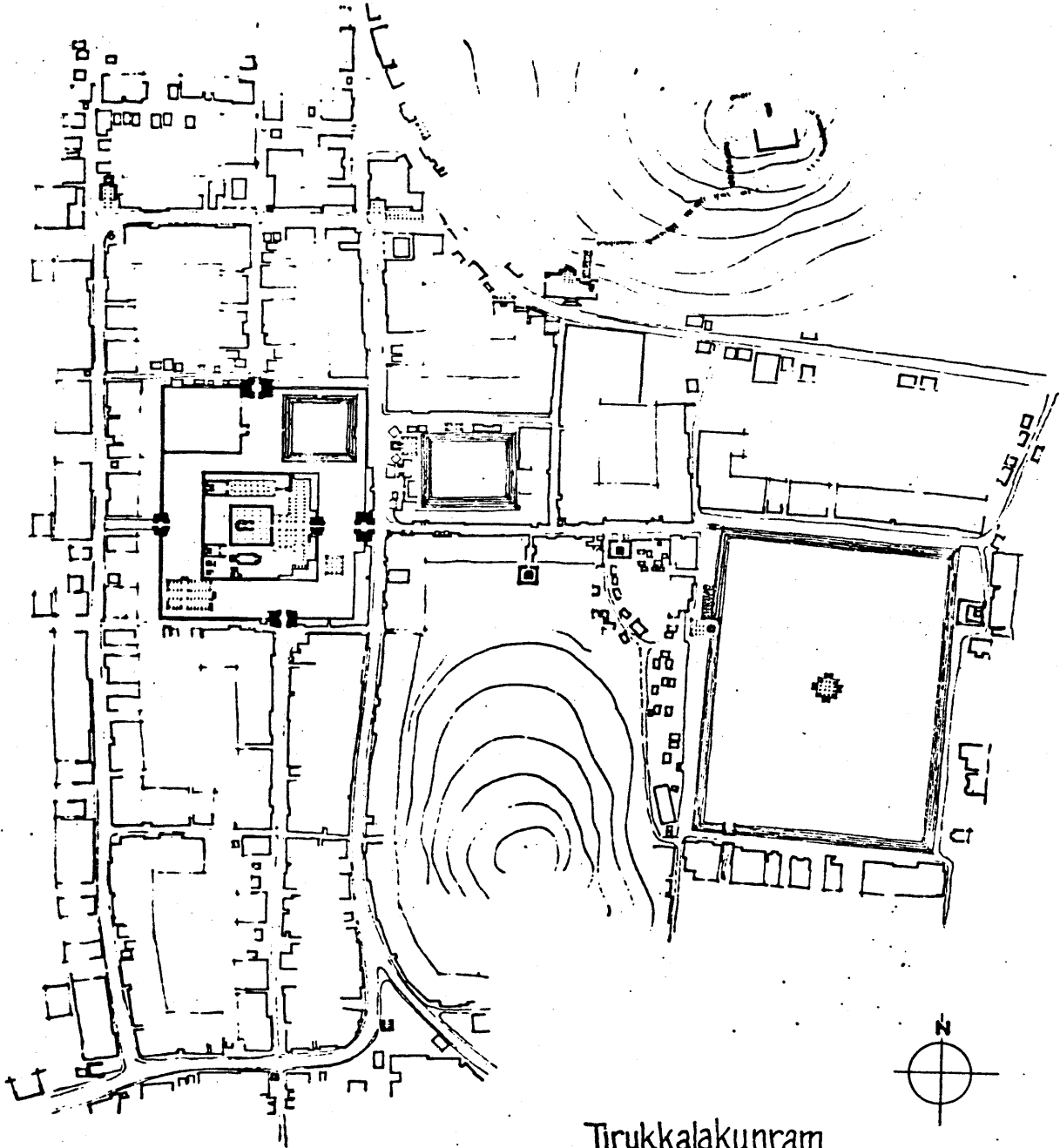APPROX. SCALE

South Car Street, Suchindram.

Such is the major structure of the village. The car street is forty to
fifty feet wide, a striking contrast to the smaller network of lanes and
side streets. It is large enough to function as an activity centre as
well as a corridor for movement. The eastern extension becomes an ap-
proach for pilgrims, of which there are a large number, while through
traffic bypasses the town along the river's edge. As three-dimensional
environments, there seems little connection between the precise, highly-
decorated temple interior and the loose agglomeration of secular build-
ings. But the diagrammatic scheme of things gives a cohesion and signi-
ficance to the parts. The street pattern, interestingly, is attributed
to Tirumala Nayak.

Tirukkalukunram shares with Suchindram a large temple complex, and encircling car-street, and a dominant eastern axis. Although two hills

Tirukkalakunram, looking Southwest.

rather than a river provide the major topographical definition, the larger hill to the northeast creates a similar boundary, and through traffic again bypasses along this edge. The relaxed way the scheme is worked out is very similar to Suchindram. Unlike Jaipur, there is a clear response to the topography. If the car-street, which is a very elongated rectangle, were an exact square corresponding to the controlled geometry of the temple, it would be impossible to enclose any significant amount of area for the town without running into the same problem as in Jaipur's northwest corner. The distortion allows a major car festival to function, and, as in Suchindram, redefine annually the

Tirukkalakunram

0   1   2   3   4   5   600 FT.
APPROX . SCALE

the religiously-understood claim to a piece of the landscape.[1]

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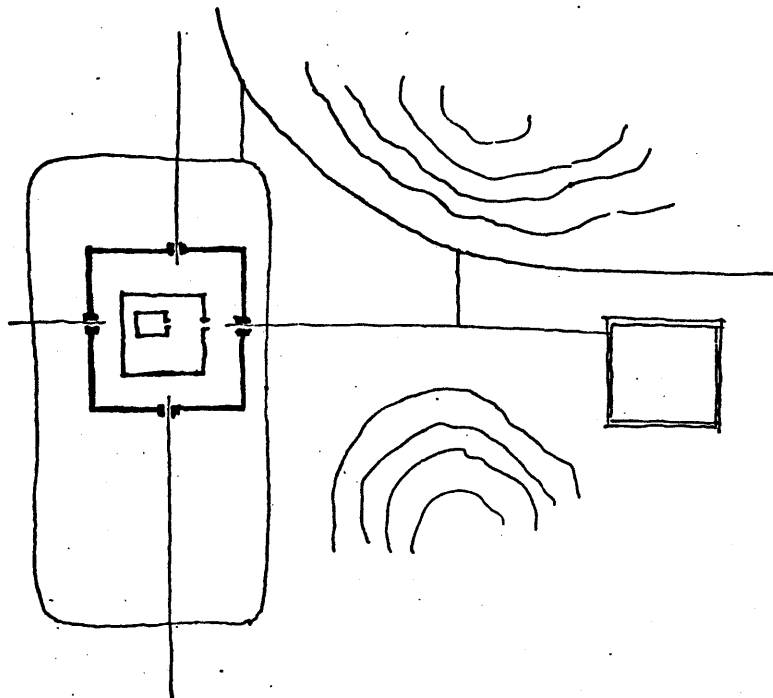
[1]Mention must be made of the large water reservoirs, teppakulams, that appear in these towns. Similar in size to the central temple complexes, they establish an interesting balance of opposites - their sense of openness and repose so different from the intricate, concentrated interiors of the temples themselves. They are not dealt with as important ingredients of village layout in the texts, and in fact they usually occur outside the main fabric - even the location in Suchindram is outside the processional path. But they are associated with the temples, as occasional playgrounds for the deities, and can establish important axes. Throughout the year, their supply of water is important for bathing and washing.
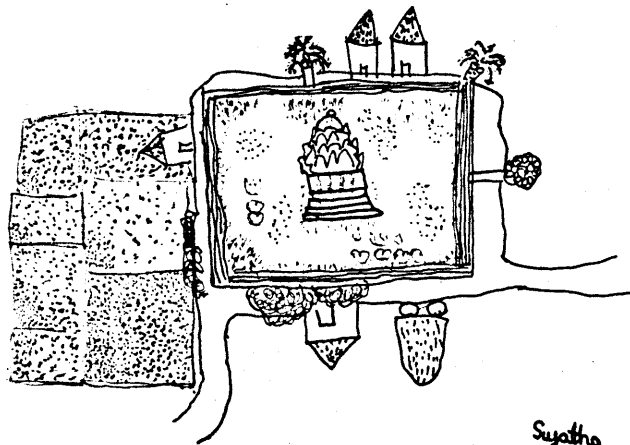
A child's image of the tank at Tirunirmalai, a village near Madras. Note the temple car in the lower right.

Such towns seem to illustrate a fairly organic development of notions of dwelling which in the Śilpa-śāstra texts are formalized and given explicit detail. The planning tradition which emerges addresses itself to situations much more complex than a simple village. But complexities can lead to attempts to rigidify and over-control. Madurai stands out as an example of an ordering which handles a complex situation in a relaxed way, retaining thereby some of the qualities of places like Suchindram and Tirukalukunram. It is sometimes referred to, with some affection, as 'an overgrown village'.

Tirukkalakunram : the major east axis, looking from the steps of the Teppakulam towards the temple.

POSTSCRIPT

At the outset I indicated that Madurai was entering a phase of new indeterminancy. It is not clear whether the momentum generated by current growth can be channeled into meaningful physical forms. But meaning in architecture, though elusive, is an important issue. It allows shared associations with a place, a sense of community. It arises, I would argue, when an individual is able to recognize in the built environment concepts which it embodies. To recognize them, he or she must share them in some way, and it is the interaction itself which constitutes the field of meaning. In other words, meaning is intrinsic to neither the subject nor the object in isolation. In applying this framework of analysis to a city, one would define meaning in a city as a function of the physical embodiment of certain concepts interacting with one's understanding of, and preoccupation with, those concepts. In Madurai this interaction seems to me potentially much richer and more consistent than in most urban centres.

However, one of the key factors in dealing with a collective enterprise in the environment is the nature of the shared concepts. At some level there exist a set of assumptions in terms of which things are explained and justified. It is only in terms of these assumptions that behaviour can be understood as proceeding on rational grounds. As I have suggested, one of the assumptions of the Indian city planner was of the reality of a sacred landscape, the whole country as "a field of more than human activity".[1] To enable people to successfully inhabit such a land-

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[1]Kramrisch, The Hindu Temple. p.3n.

scape, the application of the principles embodied in the vāstu-mandala is a rational move. It uses available knowledge to harmonize and control, a process which characterizes much of the human enterprise and which I understand as secularization. The task of orchestrating this process is invested in the architect and the larger priesthood; their actions are a basis for meaningful encounters with a place.

Today we tend to look to a new priesthood for the elucidation of useful knowledge. The assumptions of today's 'scientific' city planner make the earlier assumptions seem irrational. With the assertion of the ultimate primacy in the natural world of a self-contained cause and effect, a neutral grid replaces the divinely-infused mandala; secular space pushes out of old city walls and spreads to cover the whole earth. The old forms, however, still strike a responsive chord; they have addressed directly the act of dwelling. If there is going to be a modern solution which continues to give meaning to this act, it will have to create its own understanding of vāstu, its own vāstu-mandalas. These diagrams will have to continue to express collective assumptions about inhabiting a landscape that is still, after all, very much alive. Since assumptions are matters of faith, the drawing of mandalas remains a religious enterprise. There needs to be a common, or at least dominant, faith for a collective pattern to emerge.

Whatever the inputs, the mandala itself is not an end-point. It comes to life only in response to a particular place and time. It is this process, of imbedding such diagrams in the built landscape, that the example of Madurai serves to illuminate.
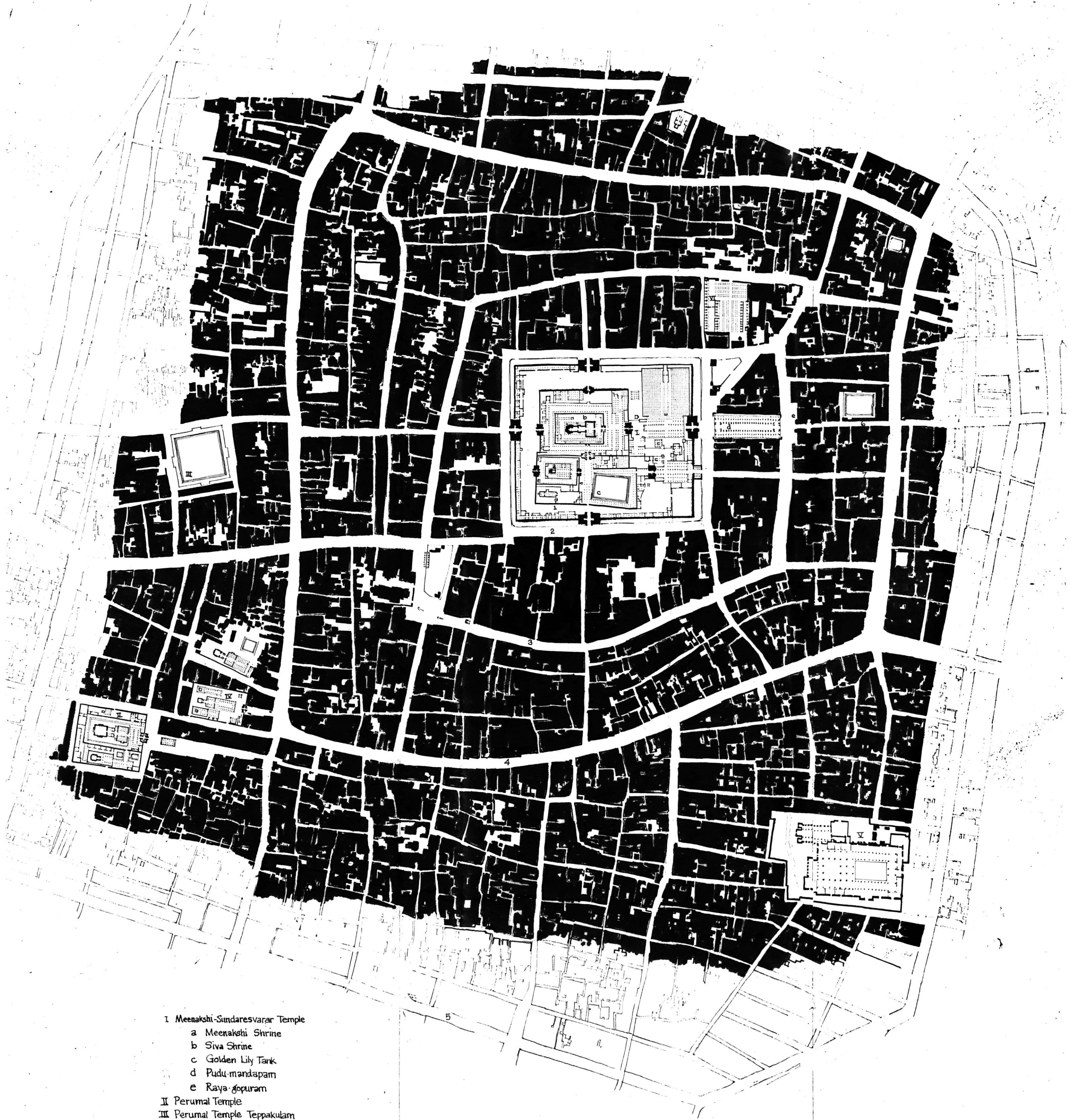
I Meenakshi-Sundaresvarar Temple
    a Meenakshi Shrine
    b Siva Shrine
    c Golden Lily Tank
    d Pudu-mandapam
    e Raya-gopuram
II Perumal Temple
III Perumal Temple Teppakulam
IV Madanagopalasami Temple
V Tirumala Nayak Palace
VI Central market

1 Adhi Street
2 Chitrai Street
3 Avani-moola Street
4 Masi Street
5 Veli Street
6 Swami Sannidhi Street
7 Amman Sannidhi Street

N
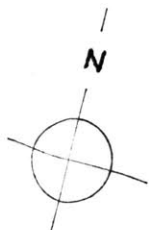
Madurai

0 1 2 3 4 5 6 7 800 m

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