119 URBAN DESIGN

Summer 2011
Urban Design Group Journal
ISSN 1750 712X — £5.00

INDIA

THE DELHI RIDGE, EXAMPLE OF URBAN SCALE GREEN INFRASTRUCTURE.
An indistinguishable urban feature of Delhi is the 'Delhi Ridge forests'. Known as the lungs of Delhi they result from a series of historical efforts into afforestation of the rocky Aravalli Hills, believed to have formed 150 million years ago. December 2011 marks the centenary of the announcement of the British imperial capital move from Calcutta to Delhi. The Master planner of this new city was Sir Edwin Lutyens who led a team including horticulturists. The ridge was extensively planted with Babul and Neem trees and declared a 'reserved forest'. Lutyens' Delhi is also unique in its character of tree-lined avenues, even though with hindsight a different selection of trees may have sustained the local micro-climate and hydro-geology better.

↑ Delhi Ridge and Delhi Avenues
All images Ripin Kalra

● Ripin Kalra Associate – Low Carbon Development/ Disaster Risk Reduction, WSPimc & Senior Fellow, University of Westminster

natural drains will be carefully relieved from development such that expensive flood measures and disruption to lives and livelihoods can be avoided.

- Community utilities: spaces within neighbourhoods will be allocated to produce energy, treat waste and recycle water. Community power stations will engage existing small businesses to operate renewable energy installations and engage local people in skills development and paid jobs. Green infrastructure to compost organic waste will minimise the waste to landfill sites. Water treatment facilities can be part of the green infrastructure.

Evidence from the most recent urban developments in India shows that there is a large gap in the way professional skills are applied in the journey from land-use plans to the building. Discourses and application of suitable urban form are necessary to realise the many ideas being put forward by the climate missions. The urban realm is particularly important as the low-income and informal sector, vital for the urban Indian economy, operates here. ●

SPACE IS THE YANTRA

V. Naresh Narasimhan, Anne-Katrin Fenk and Sumandro Chattapadhyay reflect on how to reinvent the Indian city

There is after all some kind of mechanism between the built world and people. But the machine is not the building. Space is the machine.

Bill Hillier, *Space is the Machine*

CONTEXT

India is an ancient urban civilisation. The sub-continent has faced the challenges of planning cities and providing for growing populations since 2300BC. By 700BC, India had gone through its second urban revolution with the growth of sixteen Mahajanapada (literally, mega-cities) across the Indus-Gangetic-Vetravati-Godavari plains. A unique set of codes for spatially organising the urban centres, from the city scale to that of the household, has existed since then and was applied in building the Harappan cities (BC 2600-1900). In later years, an evolved form of these spatial logics came to be known as the vastu shastra, variously understood as knowledge or discipline of built objects or spatial design. One of the central elements of this body of knowledge is the yantra (literally machine), which meant a harmonious configuration of various forces towards a common goal or state of being. Recently there have been different attempts to interpret these texts in a modern context. This article re-visits the ancient concept of yantra – as a practice of spatial analysis based on human experience – and re-interprets it as an analytical and visual device for studying and re-inventing Indian cities. Furthermore it takes the concepts of informality and historicity into account to evoke productive strategies for the future cities of India.

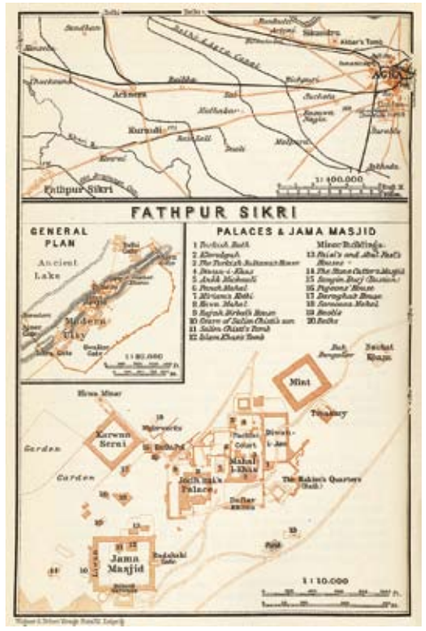
↗ The City of Jaipur

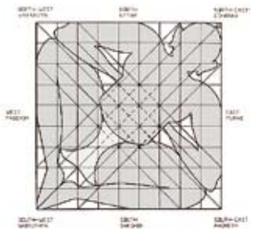
SHIFT OF URBAN PERCEPTION

The approaches to town planning in India have changed significantly over the past century. Colonial city planning and the post-independence embracing of internationalisation as well as modern and post-modern urban projects have left different urban images in their wake. The transformations of existing city quarters and the expansion of the urban area are rapidly changing contemporary urban spaces in India. At the end of the 1960s, the political focus shifted from the agenda of vibrant construction of new urban centres to an agrarian development approach, while the urban reality was almost taken for granted. Although the urban has returned as a significant location of public intervention in the last two decades, it is now being seen rather as a financial site of investment by public and private partners, and less as an evolving habitat and resource for the future. The difficulty, and general failure, in addressing challenges of urban planning and design in India emerge from a lack of analysis of these evolved formal-informal spatial configurations. The pressure brought by accelerated growth in connection with other factors is reinforcing the heterogeneity and fragmentation, which cannot be allied with classical planning. On the contrary, this creates a perception of incomplete cities, providing a strong contrast to the mainstream complete images that global architecture circulates. The situation has initiated various responses ranging from critique of traditional urban planning tools to that of urban planning as a discipline itself.

INFORMALITY

The discourse of informality is perhaps the most common global representation of the paradoxical charm of Indian cities. The issue has often dominated discussions around urban planning and development. These range from the informal being seen as the rival of the formal city, as an anomaly to the civic public place, to a consequence of insufficient formal planning. Recently, many urban theorists have foregrounded the ubiquity of the informal, critiquing the view of informal as geographically separate from the formal city. Contrary to some common perceptions, the informality is hardly an anarchic zone. The informal settlements and processes are deeply dominated by various power structures, including a section of the formal administrative system. While we do agree about the inseparability of the formal and informal in Indian cities, we see both as shaped by discriminatory powers of different kinds. Any proposal towards the Indian city of tomorrow must address both these domains and cannot uncritically celebrate the informal.





WHAT IS YANTRA?

Yantra literally means a machine, or an instrument. The linguistic emphasis, however, is not on it being a mechanical thing, or being an instrument for a higher end, but rather on being a configuration of different things and forces that creates a harmonized system. The principal forces that a yantra deals with are the five bhuta (elements) of land, water, energy, wind and space. Yantra is drawn as a gridded diagram that covers the ground of the habitat concerned, ranging from a house to a city, and is used to organise various programmes within that space.

What differentiates a yantra from a mandala (such as the vastu purusha mandala) is that the former is a functional diagram, while the latter is an extension of the former with cosmological references. The vastu purusha mandala is made by inscribing a male body (as a deity) upon the yantra and serves two major purposes: it divides the habitat space according to human activities (with body parts acting as index for these activities) and creates a cosmological layer of meaning upon the physical space. It should be noted here that these understandings are not definitions and can possibly be contradicted by various other interpretations.

SPACE IS THE YANTRA

Yantra is not a Master plan but a graphic tool. It is not a scale-correct plan of how a building or city is to be made. Instead, it is used for visual thinking of spatial distribution of various activities. As Vibhuti Chakrabarti explains, the yantra as an architectural diagram not only 'adopts the site constraints, it [also] adopts the parametres of design requirements of [climatic diversities] as well as the variation of building materials, functional requirements, and the social and political context' (Indian Architectural Theory, 1998). Furthermore, the yantra is a two-dimensional diagram for conceptualising a multi-sensory spatial experience. Often yantra is misread as a figure-ground

↖ Space organisation of FatehpurSikri
↑ The 'Yantra' and the 'Vastu Purusha'

↑ The Map of the Village of Banaswadi, Bangalore

diagram using mathematical (and cosmological) determinism for defining space usage. It however describes a kinetic human experience by using visual motifs, such as simulation of motion by the sequence of openings and obstructions among different segments.

To summarise these two points, yantra is essentially a tool for graphically representing the human experience of a designed network of spaces. To borrow Bill Hillier's terms (Space is the Machine, 2004), the yantra method of visualisation does not operate at a paradigmatic level but at a metaphorical one. Instead of defining the construction process, the yantra defines the built form by its effect on human senses. It does not show a building or a city, but shows the organisation of spaces that makes a building or a city – the building is not the yantra, the space is the yantra.

REINVENTING THE INDIAN CITY

Bangalore's transformation from a city of gardens to a hierarchised cluster of typological fragments is both sinister and alarming. The newly created fabric is simply imposed on top of the old, which shows the failure of large scale planning that addresses only the codex of Megacity infrastructures. Re-inventing the Indian city necessarily requires a shift from this Megacity approach towards inclusive methods of interweaving the existing pattern with the new – the formal with the informal. The argument that informality leads to inability or irrelevance of planning emerges from a problematic understanding of planning as a physical ordering of social activities (the 'machine paradigm' according to Bill Hillier). Planning is rather a process of designing spatial networks and lived experiences of such spaces and yantra is a most appropriate visual-analytical method for that. Challenging the tabula rasa approach, it is a comprehensive tool for rethinking cities as networks of neighbourhoods within a time-based spatial coexistence. The yantra opens up discourses of standardised and defined urban spaces, and facilitates re-inventing of each unit of habitat as a location of unique identity and productive agency.

Planning processes need to interweave a larger framework of urban references to make productive spaces. But the orientation and explicit forms of the parts of the settlement must be determined by the specific conditions, and not be created as smaller versions of the whole. The yantra as a visualisation technique contributes to the fundamental need of 'making the city observable' (to quote Richard Saul Wurman), which should accompany planning processes again. The yantra as an analytical device can re-code the city as a processual entity while accepting that cities are in a continuum between history and utopia.

CONCLUSION

This reading of yantra renews the point raised by Jane B. Drew in 1955 where she demanded urban planning to be understood in terms of the 'five Ds' – the three-dimensional physical space and the two dimensions of temporality and relativity of human knowledge. Yantra is a method for the planners to envision contemporary functions along with historical and future perceptions – an expanded definition of sustainability – and to re-invent urbanity as a complex network of diversely inhabited spaces, in accord with ethics, ecology and economy. 'The past was good when it was the present', said Nehru, 'but you cannot bring it forward when the entire world has changed into a technological period' (Opening Address in Seminar on Architecture at Lalit Kala Akademi, 1959). The task for urban design in India is not to bring the past forward, but to re-invent it for the present. ●

● Naresh Narasimhan, Principal Architect at Venkataramanan Associates and a Co-founder of MOD. Anne Fenk, architect and urban Designer, taught at Technical University Berlin and a Co-founder of MOD. Sumandro Chattapadhyay, social scientist works with MOD on urban data, processes and policies

URBAN DESIGN EDUCATION

Ranjit Mitra outlines the increasing importance of urban design education in an expanding country

Urban design education in India began at the School of Planning & Architecture in New Delhi (SPA), a city that has been the centre of planned development initiatives in post-independent India, privileged as the seat of the central government, blessed with abundant urbaniseable land and an excellent geographical location. The process of introducing the course was initiated in the mid sixties, visualised as an extension to undergraduate architecture and a bridge between planning and architecture; the programme formally began in 1969 as a full time two year post-graduate Diploma in Architecture. It drew inspiration from the programme at the Graduate School of Design at Harvard University and addressed issues of civic design and large scale architectural projects. Sir Edwin Lutyens who designed New Delhi, probably India's grandest city of the 20th century, was followed half a century later by Le Corbusier, the designer of Chandigarh, an archetype of modernist city located 200 kilometres north of Delhi. The planning and design of these cities had a deep influence on setting the direction of the urban design programme at SPA during its early stages.

The emphasis on large architectural projects also emerged from the development of Delhi which has been regulated by the 1962 Master plan. At the time it was the only metropolitan city in India to follow a planned development process. The city provided a wide canvas of design opportunities to the urban design programme beginning with the development of District Centres and Community Centres, pedestrian-friendly introverted commercial complexes, modelled on town-centres of post-war British New Towns. The city was simultaneously developing large government housing estates experimenting with new typologies and models of ownership. It was expected that the urban design programme would concern itself with development priorities of the time, and this was reflected in the type of thesis topics and studio exercises.

↑ Exploring the city from a position of 'the in between', a third perspective - in between old and new Delhi – model by Student Divya Chopra