

# HEALING CITIES: AN IKS APPROACH TOWARDS SUSTAINABLE DEVELOPMENT IN HISTORIC INDIAN CITIES

Krishna Kumar<sup>1\*</sup>, Shankha Pratim Bhattacharya<sup>2</sup>, Pulak Mishra<sup>3</sup>

1 (Presenting Author) Research Scholar, CoE-IKS, IIT – Kharagpur;

2 Associate Professor, ARP, IIT – Kharagpur;

3 Professor (Economics), HSS, IIT – Kharagpur

Abstract: One of the most important means for any establishment is its Vision, its Survival and Sustenance lie in the Deep roots of its beliefs and Knowledge Systems. This 'System of Knowledge' is the rationality of indigenous practices, however, it is only considered the knowledge of culture, customs, traditions, agriculture, customary laws, and so on. This research is trying to look into the ancient Vedic perspective towards nature/universe and trying to see it from the perspective of the observation of Historic Indian Cities and Architecture. The great urbanist in the west have also identified, idealized, and practiced this idea from Vedic Indian knowledge systems. Later in this research finding, an elementary perspective about this philosophy, its visualization, and its practice has been observed. This can further be seen in the distinctive light of yoga and Ayurveda, to better understand the evolution process of cities and hence, suggest this as an alternative approach for Sustainable Urban Development.

Keywords: System of Knowledge; Historic Indian Cities; Sustainable Development; Urban Development

## 1. INTRODUCTION

Strong wisdom of Knowledge was the foundation for the survival and sustenance of Indian culture and civilization, this repository of knowledge is known as "Vedas" (Patra, June 2014). Vedas can be considered the first written source of the Indian knowledge system, and are prime focus/devoted towards nature (for both inspiration and experimentation). This core of Vedic philosophy has a distinctive view towards looking/conceiving nature, which believes everything lies within nature itself. "अहमात्मा" I am the Self (Bhagavad Gita: Chapter 10, Verse 20), and later this self is seen as self-manifestation. पुरुषऽएवेवँ सर्व पद्भृतं यच्च भाव्यम् । (Purusha sukta, 10.90, Rig-Veda) and this cosmic manifestation (purush) is the past, present and future of universe. Great scholars and Urbanists in the west also realized this from past to present and tries to conceptualize the fragments of this materialistic world with the spiritual realm. Keeping personified human as a base for a system of harmony and proportions, scholars have established a dualistic argument for their concepts of planning. first is a philosophical argument about nature, geometry, and, technology, and another one is an argument about the social problems resulting from the Urban and historical changes in cities. A significant similarity in practice and general acceptance towards conceiving the cosmic body has led to various universal experiences within. According to Śańkara's classical Advaita, the universe is false (Jagan-mithyā), only Brahman is real (Brahma-satyaṃ) and the individual soul is identical to Brahman (jīvo-brahmvaira-nāparaḥ) (Tunga, 2015). According to Michael W. Meister, the paradigm for cosmic planning (mandala), as a manifested form of the Vedantic body (purush or Vaastu purush), is contained in the mystic cosmogony of verses of the Atharvaveda (Michael Meister G. B., 2003). The conceptualization of space and universe as vaastu purush in the mandala is stated to have roots in early Vedic Literature (Chakrabarti, 2013).

#### 2. CONCEIVING UNIVERSE: VEDIC PERSPECTIVE

Vedic Philosophy is intensely scientific and spiritual. (Moore, 1967) Experiential learning of Vedas belies to converge universally from macrocosm to microcosm. It is believed that "Everything is governed by one law, i.e. the laws prevailing in the cosmos also operate in the minutest of spaces and beings." (Michael Meister G. B., 2003). This Vedic philosophy opens to a deep ancient Indian knowledge system that believes to see human manifestation in all creations as Maya. The concept of Maya:

# रूपं-रूपंपरतिरूपोबभूव तदस्य रूपंपरतिचक्षणाय इन्द्रोमायाभिःपुरुरूप ईयतेयुक्ताहयस्य हरयःशतादश ॥ (Rig Ved 6.47.18)

"Indra through, Maya appears as of many forms to his many worshippers". But this concept does not only believe that Maya is manifested as humans but also human (myself) as Maya, which is well stated in 'Devi Sukta' (Rig Ved 4:26:1) "अहंमनुरभवंस्यश्चाहं ......" I was Manu and I was Surya", 'Devi Sukta' (Rig Ved 10.125) also presents the same manifestation of the divine as 'self' in Samhita mantra depicting the 'conceiving universe' as: "अहं राष्ट्री संगमनी वसूनां चिकितुषी प्रथमा यज्ञियानाम् ". In the third mantra of this sukta, the word "चिकितुषी" is explained as: " She (the rishi) had known or realized as her own Self the supreme Brahman, that which must be realized." The great sayings from Upnishadas as, "Mahavakyas" also built this link between atman and Brahm as illustrated in Table 1. These Mahavakyas from Vedic texts incline our insights toward the self-realization of all these knowledge systems.

Table 1: Mahavakya from Ved (Source: Author, after (Meditation on Mahavakyas, n.d.)

S.No	Mahavakyas	English Translation	Source
1.	Prajñānam Brahma (प्रज्ञानम् ब्रह्म)	"Knowledge is Brahman," "Brahman is Knowledge"	Aitareya Upanishad 3.3 of the Rig Veda
2.	Ayam Ātmā Brahma (अयम् आत्मा ब्रह्म)	"This Self (Atman) is Brahman"	Mandukya Upanishad 1.2 of the Atharva Veda
3.	Tat Tvam Asi (तत् त्वम् असि)	"That you are" ("the Existent")	Chandogya Upanishad 6.8.7 of the Sama Veda
4.	Aham Brahmāsmi (अहम् ब्रह्मास्मि)	"I am (part of) Bra <mark>h</mark> man"	Brihadaranyaka Upanishad 1.4.10 of the Yajur Veda

#### 3. HUMAN BODY PROPORTIONS AND ARCHITECTURE

Architects and Planners manipulate architectural forms as such to make them more meaningful and symbolic. The space forms images and images form figural shapes, that have a hierarchy in size or sequence. The resemblance between the human body proportions with a perfect building design was first stated by a Roman architect Marcus Vitruvius in the first century BC (Choi, Human Figure in Le Corbusier's Ideas for Cities, 2018) The two earliest observed geometric figures, a square, and a circle, he inscribed the human body to it, the two figures are considered images of perfection. (Ball, 1980) It is broadly acknowledged that the human body follows the Golden Ratio proportions. Adolf Seizing have observed Golden Ratio as a Fibonacci sequence of measurement in the human body proportions in nineteenth century. Thereafter later in twentieth century, architects Erns Neufert and Le Corbusier have proposed, the Golden proportions of the human body. (Agrest, 1991)

# 3.1 In West: Vitruvian man

Leonardo da Vinci (1490) expressed his observations of the universe and universal functions as human proportions in his drawing named 'proportions of the human body by Vitruvius', this was later supplemented in records of works by architect Vitruvius (Irizar, n.d.). Da Vinci has stated that, for all things created in nature, the human body is the supreme of all. He applied it with Vitruvian as a manifestation of the human body. Vinci sees the human body as a mirror of the universe. As a note to his sketch of the Vitruvian man, he termed the human body as a cosmography of microcosm, he sees the body as an analogous order to the universe, macrocosm to microcosm.

#### 3.2 Modern Times: Modulor

Le Corbusier regarded the level of human connection with the human body and the ancient civilizations as having great importance (Corbusier, 1973). Le Corbusier, the eminent Architect of the nineteenth century, was observant of ancient cultures and civilizations for their proportions of constructions as an absolute part of the mathematics of the human body (Singer, 1991). It was this time when scholars in the west observed the 'system of proportions' in ancient civilizations as the proportions human body. They tried to imitate the perfect creation of nature, i.e. human body (Plummer, March 2013) (Kirti, 2013).

#### 3.3 Vastu Purusha Mandala

Much earlier in the Vedic period, the model of the universe was devised as Vastu Purush Mandala for the basis of architectural design. It was expressed as the drawing of the universe depicting the links between build and nature (Kramrisch, The Hindu Temple, 1976). The perfect state of a building was viewed as 'Purush', the 'man of the universe' (Patra, June 2014). The fundamental of Vastu lies in the faith, that the earth is a living organism that is thriving with life and energy. This living energy is symbolized as a person, which is aligned on a geometrical plot; this is Vastu Purush Mandala. This also depicts the effects on the human body (Kramrisch, The Hindu Temple, 1946).

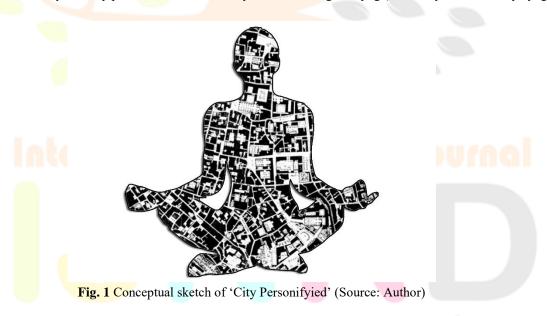
#### 3. CITIES AS BODY/ORGANISM

It is very important to have a vision towards design communications in architecture. It is the basis to comprehend the realities, it can also reveal the sources of profound and comprehend mysteries. It plays an important role in imagining the 'Form' and 'Function' in any architectural design. Imagining an 'Ideal city' was a continuous thought process among scholars of different disciplines. Scholars like Aristotle and Plato have also written about the idea of an ideal city with a self-supporting and controlled size to provide the best-suited needs of time and social cohesiveness. But such is an early image of city that distribute resources through network flow (Odum, Environment, power, and society, 1971), The flow of energy and materials in society were analyzed in the same way as in organism and ecosystem (Bon, 1979). This notion of studying societies and cities got increasingly relevant as ecologists study the metabolism of cities (Decker et al. 2000, 2007), the ecological footprints of cities and regions (Luck et al. 2001), and the ecological impacts of human societies (Bettencourt et al. 2007; Vitousek et al. 1986, 1997; Wackernagel et al. 2002).

#### 4. DISCUSSION

This study has begun an analysis of how a Vedic observation of the basic factors of life can lead to many solutions for contemporary urban reality. This work grew its motivation from long-standing observations and results from empirical advances in Architecture, Planning, and Urban Conservation. The analysis presented in this paper shows the Vedic perspective of observing the nature and universe as manifestations of the Body. Personifying the subject of observation, for better understanding and co-relating the nature from the macrocosm to the microcosm. The building is rather seen as a manifestation of various states of body and mind, than just as mere a building (Choi, Human Figure in Le Corbusier's Ideas for Cities, 2003). As per the Vedic belief system, we always conceive the things within ourselves to understand them better. The fundamental to Vastu Purush lie in the faith that the Earth is a living organism. It breaths, grow, and thrive with energy. This earlier belief/Knowledge system later inspired modern urbanists to analyze and design more "human-friendly" city designs.

We mostly talked about personifying nature in order to understand it better, but we never think about the age of this cosmic Purush. This intimates us towards the fact that "everything that is born, does evolve/grow, infant, adult, young, old, and eventually merge back in nature". Similarly, if we conceive/manifest/personify this Vastu Purush in a mandala, we should also take a look into the age and health of this Vaastu Purush. Hence in process to study the historical evolution of an ancient city, its imitation with the cosmic Purush, its age, posture, and health may lead us to understand the urban structure of the town at that time period¹. Later, this study of the evolution of 'city and city personified', can be analyzed better in light of yog (both adhyatmic and kriya yog).



# 5. RESEARCH POSSIBILITIES: YOG AS EVOLUTION

Yoga has its verbal root as युज् (Yuj), which means "joining", युज्यते अनेन इति योगः (Yujyate Anena iti yogah) Yoga is that which joins, it is the joining of जीवात्मा (Jivatma) - the individual self with परमात्मा (Paramatma) - the universal self (Chandan Singh, 2018). This takes us to the earliest Vedic belief of conceiving self with nature and universe. Like the way we have analyzed the personification of cities inspired from Vedic and vastu believes, we can analyze the evolution, health and development of historic Indian cities in light of yog, by considering the age-growth of this manifested purush. In this way, we can dissolve the observed research gap by including yogic principals from Ancient Indian Knowledge Systems.

### 6. ACKNOWLEDGEMENTS

The Authors thank to Prof Joy Sen (Chairperson, Centre of Excellence for Indian Knowledge System, CoE-IKS, IIT Kharagpur) for his valuable insights and discussions, which helped me greatly in the development of this work. I also extend thanks to Prof.

<sup>&</sup>lt;sup>1</sup> Case Understanding of Evolution of an Ancient historic city will lead us to better compare/ understand the case/condition of the cosmic man with the city urban morphology.

Jyotirmoy Chatterjee (Advisor, Dr. BC Roy Multi-speciality Medical Research Centre Former Head, SMST IIT Kharagpur) for rooting this interdisciplinary issue and motivating research possibilities and way forward.

#### REFERENCES

- Agrest, D. (1991). Architecture from Without: Theoretical Framing for a Critical Discourse. Cambridge: MIT Press.
- Ball, V. (1980). Architecture and Interior Design. New York: J. Wiley & Sons.
- Bon, R. (1979). Allometry in topologic structure of transportation networks. Quality, 13(4), 307–326.
- Chakrabarti, V. (2013). Indian Architectural Theory and Practice: Contemporary Uses of Vastu Vidya . Routledg, 1-2.
- Chandan Singh, D. T. (2018). Yoga Origin, History and Development in India. *Indian Journal of Movement Education and Exercises Sciences (IJMEES)*,.
- Choi, S. J. (2003). Human Figure in Le Corbusier's Ideas for Cities. *Journal of Asian Architecture and Building Engineering*, 137-144
- Choi, S. J. (2018). Human Figure in Le Corbusier's Ideas for Cities. *Journal of Asian Architecture and Building Engineering*, 2:2, 137-144.
- Corbusier, L. (1973). The Modulor. trans. Peter De Francia and Anna Bostock. Vol 2. London: Faber and Faber Limited.
- Decker, E. S. (2000). Energy and material flow through the urban ecosystem. *Annual Review of Energy and the Environment*, 25, 685–740.
- Irizar, P. (n.d.). ANTIGONE, DA VINCI'S VITRUVIAN MAN AND THE MEASURE OF ALL THINGS. Retrieved August 2021, from https://antigonejournal.com/2021/05/da-vinci-vitruvian-man/?cv=1
- Kirti. (2013, October 26). *In Pursuit of Architecture and more*. Retrieved 09 27, 2021, from harmoniousspaces.blogspot.com: https://harmoniousspaces.blogspot.com/2013/10/the-x-factor-in-architectural.html
- Meditation on Mahavakyas. (n.d.). Retrieved December 2, 2016, from www.sivanandaonline.org.
- Michael Meister, G. B. (2003). Mandalas and Yantras in the Hindu Traditions. BRILL Academic, 251–254.
- Michael Meister, G. B. (2003). Mandalas and Yantras in the Hindu Traditions. BRILL Academi, 251–254.
- Moore, S. R. (1967). A Sourcebook in Indian Philosophy xvii, Princeton Univ. Press.
- Odum, H. (1971). Environment, power, and society. New York: Wiley-Interscience.
- Odum, H. (1971). Environment, power, and society. New York: Wiley-Interscience New York.
- Patra, R. T. (June 2014). Town Planning in Ancient India: In Moral Perspective. THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES.
- Plummer, H. (March 2013). Cosmos of Light: The Sacred Architecture of Le Corbusier. Indiana University Press.
- Singer, M. (1991). Semiotics of Cities, Selves, and Cultures: Explorations in Semiotic Anthropology. berlin, New York: Walter de Gruyter.
- Tunga, S. (2015). Nature of Brahman in AdvaitaVedānta: An Evaluation. Philosophy and the Life-world, 77-84.