In this paper, an ancient Indian philosophy of architecture (Vaastu-Shastra) is explained and compared to the work of contemporary philosophers of technology. The knowledge of Vaastu is cognitively understood as the concept of instrumental understanding, sense-understanding, theoretical and scientific understanding that describes its own philosophical study. While comparing Vaastu to the modern philosophers of technology we are certainly reminded of the philosophies of Carl Mitcham, Albert Borgmann and Don Ihde in some or other way. The philosophical issues of these contemporary philosophers are very much interlinked to the Indian philosophy of Vaastu—for example (a) Mitcham's concept of technology from the ancient time till today, perceives technology as an object, knowledge and activity along with three ways of “Being-with” technology. (b) Secondly, Borgmann's analyses of pervasive influence of technology in human life from a different perspective—philosophically, socially, historically and scientifically, reflecting the way we have taken up the world both individually and collectively. (c) Thirdly, Ihde's cultural hermeneutic of technology as a hermeneutic praxis and (d) lastly, Polanyi's implicit and explicit knowledge. Interestingly, some points of agreement are noted between this very old form of knowledge with the modern philosophers of technology, which observes technology as object, process, and function.

**KEYWORDS:** Vaastu-shastra, knowledge, technology, being, object, philosophy.

**Introduction**

Vaastu-Shastra is an ancient Indian knowledge of the art and science of architecture as formulated in prehistoric times through the early modern period. Knowledge of Vaastu-Shastra was believed in Indian thought to have been passed down orally over thousands of years. Human beings have passed this knowledge down through the generations, with some modifications along the way to make it consistent with the needs of the time. Originally Vaastu-Shastra was conceived of as art only, but in more recent decades (since 1960) it has been viewed as a philosophy with some key insights that are consistent with modern science and technology.

**Brief History of Vaastu-Shastra**

This ancient Indian knowledge of architecture is as old as the Vedas, which belong to the period of 1500-1000 BC. The first textual evidence for Vaastu-Shastra is found in the Rig Veda, where the protector of the house (Vastupati) is invoked (Rig Veda, VII. 54.1). Most of the materials from the sixth century BC to the sixth century AD have been lost and only fragmentary portions appear in the later works of Vaastu Vidyā (Bhattacharyya, 1986, pp. 129, 138). The two streams of Vaastu-Shastra, the Nagara and the Dravida Schools, imitate another in many fundamental features and point to their common indigenous development within the Indian subcontinent (Bhattacharyya, 1986, pp. 144, 148). The common architectural practices of the Vaastu-Shastra are accordingly, found in traditional architecture across India.

The principal source for Vaastu-Shastra within the Vedas is the Srauta-Sutra which deals explicitly with architecture in subordination to the larger Atharva Veda. Veda knowledge such as that contained within the Vedas was preserved through hearing, memorizing, and through the written texts themselves. Vaastu-Shastra can be considered to be an applied science approach that evolved continuously over a period of at least 2500 years, producing a large number of texts like “Kashyapa Shilpa Shastha, Brhat Samhita, Vishvakarma Vaastu Shastra, Samarangana Sutra, Vishudhodhara, Purana Manjari, Mayumata, Araptipitopcsha, Silparastra Vaastu Shastha, etc. Some of the great sages, originators, teachers and preachers of Vaastu Shastha are Brahma, Narada, Brhaspati, Bhrigu, Vaisistha, Vishwakarma, Maya, Kumara, Aniruddha, Bhoja, Sukra and others” (Rao, 1995, pp. xi-xii). The common epics of Ramayana and Mahabharata have ample evidence of Vaastu-Shastra. In the Mahabharata, Mahabhr urges was built by Maya and Indraprastha and Dwarka were built by Vishvakarma. The references to these two great traditional architects, Vishvakarma of the Aryans and Maya of the Dravidians are found in both epics (Banerjee & Goswami, 1994, p. 34). The techniques associated with architecture as described in the later Vedas and its compilations until the 15th century AD, are still practiced as a part of the construction process in India today (Bhattacharyya, 1986, pp. 2, 126).

The word “Vaastu” is derived from the root word, “vas,” which means, “to dwell” (Kramrisch, 1976, p. 82). Here the word “Vastu” in general is defined as “matter” or “thing,” which exist brick, stones, iron, etc. (Shukla, 1993, p. 187). The word “Shastra” in contemporary terms is understood to mean for theory, abstraction, literature, or text with the context of its usage determining the exact equivalent meaning in English (Dubey, 1987, p. 27). Therefore, in the first instance Vaastu-Shastra denotes all kinds of buildings—religious, residential, military, auxiliary, and their respective component structures. Secondly, Vaastu-Shastra refers to town-planning, the laying out of gardens, constructing market places, roads, bridges, gateways, ports, harbors, wells, tanks, dams, etc. Thirdly, Vaastu-Shastra denotes articles of furniture such as chair, table, and basket cases, wardrobes, nets, maps, lamps, garments, ornaments, etc. It also embraces site selection, soil testing, planning, design, and determining cardinal points for the orientation of buildings based on astronomical and astrological calculation (Shukla, 1993, p. 42-43).

The equipments used in ancient days for measurement were very simple and they were known as Suratashtrak or the eight tools of measurements: scale, rope, cord, plumb line, tri-square, compass, level and sight (Chakrabarti, 1998, p. 40). The scale and rope were of prescribed length and used as measuring tools, while the rest were used in examining the site and for geometrical construction. According to Acharya’s Manasa-Silpaashastra (1981), the term ‘Manasa’ means measurement for buildings and the yardsticks by which the achievements and standards of living ages can be correctly evaluated. As such Vaastu Shastra, the classical Indian treatise on architecture, gives importance to mathematics and geometry for calculating and designing the good planning of the building.

Like most other sciences remotely connected with religion, in architecture too the scientific ideas and techniques have been integrated with philosophy and theology. This was so as the majority of the large constructions were temples. The construction of Hindu temples rarely used mortar but used a technique where stones could be affixed to one another with the force of gravity. The technique followed in doing this was similar to the one used in the Roman aqueducts. The exquisite carvings were engraved after the stones had been fixed in their places. Thus the carving of figurines right up to the top roof of a temple must have been a demanding task. The richness of ancient Indian techniques of art and architecture are spread both westward and eastward. Some of the most renowned excavations of ancient Indian sites like Harappa and Mohenjodaro (now in Pakistan) have highlighted on ancient Indian civic art and the most refined civic sense during those era. The buildings discovered at the different strata of Mohenjodaro could be classified under the following heads: (1) dwelling houses (2) public baths of religious or secular character (3) temples of some kind and (4) raised platforms, possibly tombs (Shukla, 1993, p. 51).

It was only in the medieval period that town planning according to Vaastu principles was first depicted in Arthaashastra. Some people believed that it like Pataliputra and others identified it with Taxila (Scharfe, 1978, p. 169; also see Kangla, 1965). The compilers of Arthaashastra attached great importance to the orientation of the elements of the city planning because the scheme applies the plan of Vaastu–Puru–Mandala (see fig-1, geometrical plan or ground plan).
In the modern days, for example, the cities of Jaipur and Chandigarh have followed the principles of Vaastu-Purusha-Mandala. Volwahsen (1969) has elaborately explained the geometric interpretations of Jaipur city. The design of Chandigarh by Le Corbusier (French architect) have also corresponded to the Vaastu-Purusha-Mandala, the architectural mechanism providing a blueprint for building in the Vaastu Shastra legend. Hence, the principles of Vaastu Shastra formulated 5000 years back by maharishis and rishis are still applied because of their practical and technical relevance.

Principles of Vaastu Shastra

The guidelines and principles of Vaastu Shastra have been laid down clearly in several ancient texts, but the principles upon which they have been formulated are steeped deep in the Indian philosophy of Vedas. The importance of Vaastu Shastra lies in understanding the basic principles as it analyses the blueprint which provides for a design system (Patra, 2006).

Vaastu Shastra is essentially an art of correct setting whereby one can optimize maximum benefits of the Panchbhutas (five elements) of nature, earth's magnetic field and the rotational influence of the sun, moon and the other planets surrounding the earth. It has laid down several principles for constructing buildings. The fundamental principles of Vaastu Shastra are applied in constructing buildings such as houses, commercial complexes, industry layouts, towns, temples etc. There are five basic principles on which the great edifice of the Vaastu science of architecture stands (Patra, 2009). They are

1. the doctrine of orientation;
2. site planning;
3. the proportionate measurement of building;
4. the six canons of Vedic architecture;
5. the aesthetics of the building.

The doctrine of orientation: In Indian thought, the cardinal directions hold a particular signifi cance. The various associations given to the eight cardinal directions (northeast, east, southeast, west, southwest, north, south east, north) help elucidate the orientation principles of Vaastu Shastra (Chakrabarti, 1998, pp. 101–102). The theory of orientation of buildings is secular as well as ecclesiastical, as laid down by Indian designers of structures, which consists in setting them in such a way that they may get maximum benefits from solar radiation. The fixing of cardinal points thus occupies a prominent place in Vaastu Shastra.

Site planning (Vaastu-Purusha-Mandala): Vaastu Shastra lays down various guidelines for choosing the proper site (Patra, 2007). It emphasizes strongly the examination of the soil, size, shape, taste, colour, smell and vegetation features of the land. If the plot of land is found to be satisfactory on all these criteria, then it is selected for the purpose of building a house, village, industry, town, fort etc. After the selection of land, the blueprint of Vaastu-Purusha-Mandala is provided for the grid that facilitates the inception of the design, and in addition to being the `architect's square pad', where the concepts crystallize, each of its lines and divisions holds within it layers of meaning within which the intricacies of design unfold (Figure 1). The Vaastu-Purusha-Mandala adopts the shape of the site, and this fundamental adaptation of Mandala active in the mind of the designer in its ideal form of a square, acquiring a different shape in reality, is a primary example of its inherent flexibility. Not only does it adapt to the site constraints, but also it adopts the parameters of design requirements of contexts as diverse as the hot-and-arid state of Rajasthan and the wet-and-humid state of Kerala, as well as the variations in building materials, functional requirements and the social and political context in which it is used (Chakrabarti, 1998, p. 63).

The proportionate measurement of building (Maana): The third basic principle of Vedic architecture is Maana, the proportionate measurements. The measurements are divided into six categories – measurement of height, breadth, width or circumference, measurement along plumb lines, measurement of thickness and measurement of inter-space. The role of Vaastu Shastra in the system of measurement is to achieve harmony between the absolute and the quantifiable. Measurement mediates finality in an architectural concept, similar to the spoken word, which provides a frame over which the canvas of thought is stretched. Measure 'fixes' as well as 'evaluates' (Chakrabarti, 1998, p. 35).

The six canons of Vedic architecture (Ayuadi-Sudvarga): There are six main components of a building, base (Aadhistaana), column (Paada or Stamba), entablature (Prastuara), ear or wings (Karna), roof (Shikara) and dome (Stupi). The Ayauadi formulai are some of the aspects as analysed to assess the qualities of the house (Guna). In short, Ayau means measurement of building = length × breadth (Shukla, 1993, pp. 211–217).

The aesthetics of the building: Aesthetics as a branch of philosophy deals with the nature of beauty. Applying aesthetic considerations to buildings and related architectural structures is complex, as factors extrinsic to spatial design (such as structural integrity, cost, the nature of building materials and the functional utility of the building) contribute to the design process. Notwithstanding, architects can still apply the aesthetic principles of ornamentation, texture, flow, solemnity, symmetry, colour, granularity, the interaction of sunlight and shadows, transcendence, and harmony. In Indian tradition, beauty is considered as chanda (moon); the structural aspect of building and its rhythmical disposition is like that of poetry (cf. Shukla, 1993, pp. 180–211).

These traditional principles contour buildings in multifarious forms, structures varied from one another to suit the different classes of buildings, to satisfy different functions, and they never present an identical view. As a result, Vaastu Shastra is a vast body of knowledge that has been developed and modified by successive generations of architects through many centuries. It implies a tradition of knowledge that has, at various times, been ordered and expressed (and so is handed down to us) in a range of texts, with a variety of titles.

Modern Users: Today the practice of Vaastu Shastra is fragmented beyond recognition. Indicative of this fragmentation is its use not as a whole architectural program but in bits and pieces that have little role to play in the definition of the contemporary architectural idiom (Tillotson, 1989, pp. 127–147). Its negation as an obsolete architectural program in the recent past has led to its usage in a secondary sense, where it is not allowed to interfere with the individualistic perception of the design problem and its solution—now resolved by modern methodology. It is not a part of the curriculum or discussion in any of the architectural schools in India; and exposure to its built representation is via modern parameters of architectural appreciation. Besides the modern architect, the team of experts, whose collaboration is quintessential to the realization of the Vaastu Shastra program of architecture, has resorted to insulated and individual practices. They too are fast disappearing primarily because of the irrelevance to the needs of modern India. Some of the fragments of Vaastu Shastra have adopted new meanings, where their fundamental purpose is obliterated by a kind of ritualism fashioned to hastily satisfy an inner conflict without the complementary architectural manifestation. Its complete reduction as an architectural manifestation, which in its long historical development, has been intertwined with the variables of climate, topography, life styles, as well as the social, political and economic situation of its land, render all the allied building crafts superfluous (Chakrabarti, 1998, pp. 22–23).

The practitioners who today use or make references to Vaastu Shastra could be identified as the following: the 'Indian' architect, who in search of his identity makes emphatic references to the traditional building vocabulary; the Vaastu pundit, who provides guidelines largely regarding the orientation principles that dictate the layout of the building; the astrologer, for whom the Vaastu Shastra belongs to the same tradition as astrology and the points of intersection between the two; the traditional craftsman, who today is bereft to the tutelage of the traditional team and finds application of his skill primarily in the conservation of old buildings; conservation architects, who document and analyze monuments for the sake of repairing and preserving them; and art historians who analyze them to develop a theoretical discourse on history (Chakrabarti, 1998, p. 23).

Traditional Context

Vaastu Shastra is discussed below through its culture and heritage (Patra, 2006). Culture is the way a society lives, how its people behave and its religious expressions. These alter with time and place. In particular, the way humanity sees itself in relation to its surroundings is the fundamental reflection of human culture. Today, we are facing a crisis in nature in such a manner that it stands in the way of what we want she is pushed aside. In the Indian perception, a man (manav) is a being that respects nature and a demon (dana) one that misuses nature. History has shown that the cultures which are not respectful to nature do not last long – they bring about their own downfall (Prime, 1994, pp. 18–20).

Heritage: Heritage springs from human culture. This is part of human life, from which we learn who we are and how we live, and pass our values to the next generation. Though we have received so much from previous generations and civilizations, yet we act irresponsibly and neglect our heritage. People have become estranged from their natural surroundings and forgotten the time-honoured ecological values of their culture.

Therefore, traditional wisdom in the form of the planning of human settlements, ancient texts governing building activity and the rationale of technology and material use are important points of reference. Traditionally, religion also played an important role in controlling human aspirations and ensuring interdependence and sustainability. A point of view that requires serious consideration is that the earlier generations realized that the single largest factor that could affect sustainable development was the built form and the city plan. What we today term behavioral sciences was encompassed in the traditional building and planning strategies. What is now known as planning and architecture was in fact the most powerful tool that was devised to control behavioral patterns of the entire society. It was mystified around religious beliefs, which aimed at achieving co-existence with nature. To understand the rationale for human settlement and the importance of the environment has gained importance as a result of pollution of air, water and land.
The common man feels more stressed and dissatisfied due to a lack of space and pollution in contemporary times. Vaastu Shastra, which balances the five basic elements of nature namely water, fire, air, sky and earth, and the location, direction and disposition of construction, which have a direct impact on life, has become a necessity now. The principles of Vaastu Shastra can be easily tuned, extended and modernized to meet the needs of man because the basic needs of man have changed (Pandam, 1998). Vaastu Shastra explains that because of the dynamic change, population pressures and land speculations, the resultant built form of Indian cities today is complex, amorphous and chaotic. It no more reflects a coherent response and ambiance to its environmental context. The situation is reason enough to establish sustainable ecological relationship with built form and environment which is self-sufficient, ecologically balanced and culturally stimulating. So, we need to look at the fundamentals of human settlements, and evolve a system whereby we can establish a harmony among settlements, nature and people and also the changing pattern of living (Pandam, 1998, p. 169, 170).

Moreover, if we, as a collective are to combat our own shallowness, it is imperative to dovetail the wisdom of the past with the technological advances of the present and future. The need of the hour is to clearly rationalize the thought processes and systems of implementation behind the sustainable settlements of yore as well as the disastrous results of 'modern' practices.

Understanding of Technology and Vaastu

Philosophy of technology is the study of technology, objects and practices, and the term ‘technique’ refers to the active application (Ihrig, 2011). The following pairs illustrate the following: (1) individual physical (artistic, physician and craftsman), (2) technique relating to crafts, (3) engineer-modern technology (Ihrig, 2001, p. 12), (4) philosophical reflection on technique is the system of sciences (Wolff, 1983), (5) natural science (positivism), (6) a system technique in the field of such, (7) industrialized science (natural science), industry and politics and (7) modern technology (system technology as a social project). This summary enumerating may be considered however only as rough heuristic (Ihrig, 2001, p. 13). Any technique derived from technology has its material, instrumental, or abstract structural components. The designing self may select its material, structural models and structural models as techniques for building an artifact. The selections are made from all possible elements in these components and at every step of the process of building as an object and create style. A sum of technical choices made at various points of construction gives character to a formal structure. For this reason, a constructing technique is embodied always in style and in a particular artifact (Choe, 1989, p. 98).

The primary developments of recent philosophy of technology are examined with emphasis upon issues which might also be of greater interest to philosophers of science as these include epistemological issue (Ihrig, 2004, p. 117). Philosophy of science today is much more heterogeneous. It retains many of the epistemological concerns of its earlier ‘analytic’ heritage. In contrast, philosophy of technology has primarily drawn its philosophers from the praxis traditions (Ihrig, 2004, p. 14). Philosophical Reflections are two basic assumptions of Outlines of the Conceptual History of Technology (Ihrig, 2004, p. 121). The first concerns the kind of way, the second is that we define technological knowledge as a kind of knowing, which avoids the problem of methodology.

The dualism of science and technology as different branches of knowledge, are treated in many ways. In India, Sthapatya-Kalā, which means an art and practical art, mechanical, or fine art. In Indian tradition, in Sanskrit art, for example, among the arts (kalā), sculpture is perceived as a drama, dance, music, architecture and knowledge of technology and dictionary, encyclopedia and prosody. The closeness of the relation between arts and sciences, technology and other forms of knowledge are evident from these examples and were known to the ancient.

Some degree of difference between science and technology is maintained by most 'analytically' oriented philosophers of technology. For example, Joseph Pitt’s Thinking about Technology: Foundations of the Philosophy of Technology (2000), deals quite explicitly with the technological infrastructure of science which relates to technology and change, other than technological instrumentation (Ihrig, 2004, p. 121). If a distinction between science and technology is one end of the continuum, the thorough blending or hybridization of science and technology, usually now termed technoscience, forms the other end of the continuum. The most prominent figures in this area are usually called “science studies”. Science and technology, hereafter technoscience, has clearly gained enormous prominence in the contemporary world culturally, physically, and epistemologically. The term “technoscience” deliberately binds two histories, that of technologies which go back as far as all human origins and that of science which has been in existence for different and non-parallel times. Few of the two histories today belong together in a hybrid history (Ihrig, 2004, p. 121). Ihrig in Technics and Praxis (1979) has previously argued that all science in its production of knowledge is technologically embodied. This is more than to say that science uses instruments (technologies), but it uses these technologies in unique and critical ways in the production of its knowledge. Here, Vaastu Shastra as an interlinking of science and technology is very much identical with Ihe’s concept of technoscience, which is produced by human, either directly or indirectly implies bodily action, perception and praxis (See Ihrig, 1991). The knowledge of Vaastu understood as the concept of instrumental understanding is part of a more comprehensive conception of understanding that describes as its own philosophical study. As a cognitive understanding, Vaastu (architecture, technology) covers at least three components known as –

- Instrumental Understanding such as knowledge – how.
- Sense-Understanding such as interpretation of signs, symbols and action
- Theoretical and Scientific Understanding

Vaastu-Shastra, as a theory of art and science, interconnects the understanding of technology.

In “teçne” man works his being out and articulates himself. Praxis is the prime technique. It is not the mere application of theories, vision or attentive outlook, but is an active impetus and base. In India we often use the terms Prayukti Vidya and Prayodyogika Vidya to highlight the practical or applicative aspect of knowledge, which is quite different from Prayog (the practice). The Doings is the best of knowing and learning. Theory/practice, thought/action, theorisation/application, pure knowledge/applied knowledge – whatever pair of terms we prefer, the fact remains that they are integrally related, interpretative and interactive. All these pairs represent the two main aspects of our nature, cognitive and constructive (Chattopadhyaya, 1996). Technology as a branch of knowledge in the composite universe of art and science merits some elucidation.

Technology has been conceived in many ways, for example as autonomous, as ‘standing reverse’, as liberating or enlarging force. The Greek root word techne (‘teçne’ (art) and ‘logos’ (science) mentioned earlier is the basis for many of the ways of classification and arts and sciences are neither universal nor permanent.

The great sage Manu speaks of a vidya, viz., Atma-vidya, knowledge of self or of spiritual truth. Two other words, which have been frequently used to denote different branches of knowledge, are jnana (knowledge) and vijnana (science).

While jnana means knowing knowledge, especially the higher form of it; vijnana stands for the act of distinguishing or discerning, understanding, comprehending and recognizing. It means worldly or profane knowledge as distinguished from jnana, knowledge of the divine. It must be said here that the division of knowledge is partly conventional and partly administrative or practical. It keeps on changing from culture to culture and from age to age. It is difficult to claim that the distinction between jnana and vijnana or that between art and science is universal. It is true that even before the advent of modern age, both in the East and the West there existed professionals who specialised in a particular art or science.

From very early times, the construction of temples, palaces, rest houses and other civil constructions were undertaken by professional architects known as Shapati. Even during the Vedic times, there existed professionals who specialised in the technique of constructing chariots and other heavy instruments of war. These chariot-arts were usually referred in the Rig Veda as Rathakara, which literally means ‘chariot maker’. Vaastu Shastria involves the practical skills of knowing and doing. It also makes use of formal knowledge, but its application is interdisciplinary.

In India, the Science of Architecture and Civil Construction was often known as Shapatantra-Saiva. The word Shapatantra is derived from the root word Shapana i.e. ‘to establish’. The technique of architecture is both art and science; hence it is known as Shapatantra-Kalā or Vaastu-Kalā (the word Kalā means an art). From very early times, the construction of temples, palaces, rest houses and other civil constructions were undertaken by professional architects known as Shapati. Even during the Vedic times, there existed professionals who specialised in the technique of constructing chariots and other heavy instruments of war. These chariot-arts were usually referred in the Rig Veda as Rathakara, which literally means ‘chariot maker’. Vaastu Shastras were put into practice, by use of natural building materials, local construction techniques and architectural details that have evolved over times depending upon the local conditions including weather and available materials. There is a long-standing interest in the use of instruments in ancient India. The lofty temples of the past and Post-Vedic ages, or the artistic skills in the minute stone and metal curving, bring us to appreciate the art of knowing and doing.
very simple and they were known as Sutrashtaka or the eight tools of measurement. These were the knapsack, rope, cord, plumb line, tri-square, compass, level and sight (Chakrabarti, 1998, p. 40). The scale and rope were of prescribed length and were used as measuring tools, while the rest were used in examining the site and for geometrical construction.

The knowledge, instruments, techniques, tools used in Vaastu has characterized mankind since its ancient days, when used by engineers in the modern world or when engineers aligned themselves with science in regularly applying scientific knowledge to technical practice.
We do not think about whether we should steer to the left or right to avoid falling. For example, in order to ride a bicycle, we need to know how to keep our balance. This implicit knowledge is hard to be formalised and difficult to communicate to others (See Polanyi, 1966). Polanyi also insisted that tacit or implicit knowledge is the basis of creativity. According to him, implicit knowledge is the foundation for all knowledge. This makes it a phenomenon of recognising and re-knowing feature (Polanyi, 1985, p. 14). The other feature of the things is not theoretically recognised, but mediated in practical exercises (Polanyi, 1985, p. 25). Knowledge is usually divided into theory and practice in epistemological discussion. Theory is understood as knowing how and practice is practical knowing – how (Ryle, 1949). It is useful to remember Aristotle’s view of knowledge as well. According to Aristotle, theoretical reasoning (theory) concerns knowledge that is certain (episteme) and practical reasoning (phronesis) is concerned with the contingent world of action (praxis). Phronesis is for its own sake. The phronetic act is a form of practice which means skill or craft knowledge (techne) dealing with the making things (poiesis). So, in practice we can distinguish knowing what to do and knowing how to do. They assume theoretical knowledge in the mind as well as in books, and knowledge in practice is the same as experiential knowledge.

Michael Polanyi (1966), in his work “Implicit knowledge” suggests, that the phenomenon of implicit knowledge accounts from the fact that we know more than what we are able to say. Polanyi considered how we recognize the face. For instance, we know how to recognize acquaintance; we know the appearance of the face in its entirety by ‘attending form’ the tacit particulars and ‘attending to’ the explicit whole of the face. Although, we can delineate the face among crowd of people, we are often unable to articulate precisely how we know the face. Thus, Polanyi argues, implicit knowing is the foundation for all knowledge. This makes it a phenomenon of recognising and re-knowing feature (Polanyi, 1985, p. 14). The other feature of the things is not theoretically recognised, but mediated in practical exercises (Polanyi, 1985, p. 25). Knowledge is usually divided into theory and practice in epistemological discussion. Theory is understood as knowing how and practice is practical knowing – how (Ryle, 1949). It is useful to remember Aristotle’s view of knowledge as well. According to Aristotle, theoretical reasoning (theory) concerns knowledge that is certain (episteme) and practical reasoning (phronesis) is concerned with the contingent world of action (praxis). Phronesis is for its own sake. The phronetic act is a form of practice which means skill or craft knowledge (techne) dealing with the making things (poiesis). So, in practice we can distinguish knowing what to do and knowing how to do. They assume theoretical knowledge in the mind as well as in books, and knowledge in practice is the same as experiential knowledge.

Identical to Polanyi’s implicit and explicit knowledge, in ancient times Rishi and Maharishis, who had formulated the fundamental basic principles of Vaastu Shastra must have acquired more implicit knowledge than explicit. But over these years, implicit knowledge has slowly been converted to explicit knowledge. For example, scientifically “geomagnetic field” would have been quite difficult for Rishi to understand and also it is hard to believe if they had any instrument to measure geomagnetic field thousands of years ago. But the knowledge of such a field was well known to Maharishis through implicit or intuitive knowledge of wisdom. In Vaastu Shastra, one of the most important principles is the concentration of energy.

Vaastu aims at maximizing positive energy around the humans and minimise the negative energy. Some of the important factors for positive energy are sun, geomagnetic fields, shapes and forms, and geographical position. It is because of these considerations that the important functions are always done when the sun is in the northern hemisphere or uttarayana. According to Vaastu, while constructing a building both north and east directions are given more importance and it should locate in such a way that a man gets maximum benefit from the solar and cosmic energies (Padam, 1998, pp. 63-69). The science of Vaastu aims at controlling the flow of solar energy and geomagnetic energy by selecting proper directions and locations of windows, doors, loads, slopes, planting of trees etc which can influence the energy field for the human being to live in harmony with nature (Sahasrabudhe & Mahatme, 1998, pp.13-29).

Vaastu–Shastra, as an experimental science, experiences design that is made in handling artifacts and is converted by craftsmen. For example – engineer sketches technical artifacts by designs. It concerns a graphic knowledge that the “inner eye” of the technician could be detected and drawn. Technical problems are drawn and shaped. For over 5000 years, engineers used designs in order to show craftsmen, what they have in the sense. The technical innovation begins with the perception of technical Praxis. The craftmen, however, do not obtain figurative, spoken information. Designs make it possible, parts of machines that can be made in different workshops (Irrgang, 2001, p. 112). As such, the knowledge of a technical designer is based on continued experience, which is more accurately like each form of concrete work, experimental realizations, observations of materials and systems and on concept.

Conclusion

Vaastu–Shastra has over time become more pragmatically oriented and this has caused it to also become more empirical. It is clear that many of the principles and themes found within Vaastu–Shastra resonant with those of many well-known contemporary philosophers of technology. Vaastu–Shastra remains a viable and powerful way to meld science and technology within the context of design to create environments for human beings that are in harmony with nature, cosmic forces, and the universe. This practical result is consistent with aims articulated by Carl Mitchell, Albert Borgmann, and Don Ihde as leading philosophers of contemporary technology but does so in a manner that is contextually and spiritually relevant for Indians who are anchored in a culture that is thousands of years old.
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