

DESIGN AND EXPERIENCE: A TYPO-MORPHOLOGICAL CASE STUDY OF MAHARISHI VĀSTU ARCHITECTURE IN PERÚ

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Article History:

- received 02 July 2025
- accepted 07 October 2025

Abstract. Along with Feng Shui, Vedic architecture from ancient India (also referred to as *Vāstu* architecture by theorists and practitioners in the West) has become a design and construction approach of interest to architects in western countries. The most widely applied version of this approach is Maharishi Vāstu Architecture (MVA) as realized in not only hundreds of homes throughout the world, but also in the design of university campuses, commercial buildings and retreat communities in India, Japan, Netherlands and the U.S., as well as in the design of an entire city in Iowa. However, while applied in countries as diverse as Brazil, Ireland, Malaysia, Spain, Thailand and United Kingdom, this approach to architecture has not been the subject of detailed case study analysis.

To rectify this situation, the present study investigates the application of MVA in Perú by examining not only the location, design and construction of two houses, but also the lived experiences of owner-occupants within them. The houses located in Cieneguilla and Pachacámac, the first two MVA urban developments in South America, were designed by this study's second author, a Peruvian architect, and have been featured in *arg: Architecture Research Quarterly*, the preeminent architectural journal of Latin America. One house is oriented to the east, the other to the north; one is single story, the other two stories; one is a homage to tradition, the other more modern; and one includes local adobe materials, the other standard brick and render. However, both houses are consistent with the ancient Vedic precepts of architectural design (specifically the 3 × 3 *Pītha* diagram from the *Mayamata*) and the ancient Andean *Chacana* diagram.

Results of lived experience from semi-structured interviews, consistent with findings from a previous international study of 158 MVA home-occupants, indicate that owner-occupants in Perú report increased health, vitality and good fortune, a range of practical benefits, and improved quality of life as a result of owning and living in an MVA-designed home.

Keywords: architecture, case study, typo-morphology, Maharishi Vāstu, Chacana, Perú.

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1. Introduction

The ancient Vedic tradition of knowledge in India is organised into 40 main branches or subject areas, including health and medicine (*Āyur-Veda*), history (*Purāna*), and music (*Gandharva Veda*). Architecture is one of the most fundamental and important of these branches. In Vedic terminology, architecture is part of *Sthāpatya-Veda*, the science of establishment (i.e., *Veda*, वेद—science or knowledge, and *Sthāpana*, स्थापन—establishment). Specifically, *Sthāpatya-Veda* is the science of establishing human life in accord with environmental and cosmological features and processes, indeed with all aspects of microscopic and macroscopic life on earth.

This extensive body of knowledge incorporates detailed explanations of topography, quality of soil, ground preparation, architectural design, construction techniques

and materials, and related elements of planning and erecting cities, homes and other built structures. Accounts of each design and construction element can be found in texts such as *Bṛīhat Saṃhitā* (an encyclopaedia of terms related to architecture and agriculture), *Mānasāra* (part of the *Shilpa Shastra* or science of arts and crafts), *Mayamata* (part of the *Vāstu Shastra*, a treatise specifically about dwellings), and *Aṣṭāṅga Saṅgraha Sūtrasthānam* (a branch of knowledge related to building design and health, and part of *Vāgbhatt Saṃhitā* and hence *Āyur-Veda*).

At the heart of this science is a primary concern for three things: 1) land (i.e., territory, or what in Australia we refer to as 'Country', a term which despite its nuanced and various meanings to different First Nations peoples, is broadly understood to mean the place of 'Dreaming', including the land, water, air and places of cultural

knowledge); 2) precision in the orientation, layout and measurement of architectural, interior and landscape design; and 3) the central role of the architect–master builder (i.e., the *Sthāpati*), specifically the state of their consciousness or comprehensiveness of awareness (Bonshek, 2020).

In popular parlance, Vedic architecture is referred to as *Vāstu* architecture. The word ‘*Vāstu*’ refers to the building site, divisions and layout of the site, and the exact processes for establishing a dwelling on the site. *Vāstu* is also often used as shorthand for the different aspects of Vedic knowledge related to architecture and city planning. Many contemporary examples of *Vāstu* architecture, and its role in the ancient architectural traditions of countries other than India (e.g., Cambodia, as explained by Manikka, 1996), can be found in contemporary literature (e.g., Dash & Joshi, 2021; Ghom & George, 2021; Kusuma & Subroto, 2023; Saelee et al., 2021; Yadav & Sagar, 2021). According to Dash and Joshi (2021, pp. 9982–9983), *Vāstu* architecture

considers the Sun’s influence, including its light and heating. It also considers the impacts of the electromagnetic field on Earth [and] biochemical effects on the human body to provide a stable and productive existence. The five elements of *Vastu Shastra* which are very significant are: earth, water, fire, air, and space. The entire world around us, according to conventional wisdom, is composed of these five essential elements. In addition, it is crucial to coordinate the five elements of nature with the five elements of the human body. This teamwork is essential [because] this is what harmonizes human relationships. Aside from the elements, the directions in *Vastu Shastra* are the most significant component in this ancient action. Therefore, it can also be said that *Vastu Shastra* is the science of directions combining all the five elements of nature and balancing them with the human and material.

Nevertheless, “the meaning of traditional Indian *Vastu* has diminished over time due to misunderstanding and an imperfect knowledge of *Vastu*’s guiding principles and their scientific foundation” (Rastogi & Kaushal, 2023, p. 179) and today it is sometimes delegitimized and called ‘vernacular architecture’ to denote its ‘indigenous’ heritage.

It is important to point out, therefore, that although *Vāstu* architecture comes from an ancient tradition and is often mistakenly associated with quaint folk practices from India but not the modern world, it is the valid and enduring *principles* of architectural design that have been handed down over millennia and recently revived and reinvigorated that are relevant not the use of potentially outdated materials and construction *techniques* (Yadav & Sagar, 2021). Indeed, contemporary *Vāstu* architecture can draw on all the known (but only healthy) advances in modern technology, such as solar thermal and photovoltaic heating and power sources (Goel & Kapur, 2022), replacement of Portland cement with geopolymers (Mishra & Rout, 2020), and computational fluid dynamic analysis

in engineering (Chandra et al., 2020), and many new *Vāstu* buildings embrace a wide variety of contemporary materials and technologies, for example, Leadership in Energy and Environmental Design (LEED) practices (Maheshwari & Werd, 2020). Thus, Susilo’s (2007) use of the term ‘living culture’ seems more appropriate when speaking about *Vāstu* architecture.

In the last 35 years, the most widespread international application of *Vāstu* architecture has been inspired and guided by Maharishi Mahesh Yogi, founder of the Transcendental Meditation program. It is this form of *Vāstu* architecture—called Maharishi *Vāstu* Architecture (MVA) to emphasise its comprehensiveness—on which our present case study focuses. According to Lipman et al. (2022, p. 2), MVA is a comprehensive “system of architecture and city planning that holistically promotes physical and mental health, social relationships, occupational achievement, and self-actualization”, and is the guiding feature of an entirely new incorporated Vedic City in the U.S., several university campus communities in the U.S., Netherlands, and India, and the basis for architectural and planning decisions of several ‘garden villages’, such as the one in Rendelsham, United Kingdom (Hamill, 2020).

Bonshek (2020) has provided the most detailed theoretical account of MVA. She itemises ten of its important design, construction and environmental features, the first four of which are considered paramount:

1. Influence of the sun, moon, equator, north and south poles, and planets;
2. Buildings and entrances facing east or north, and orientation of every aspect of the house according to cardinal and intercardinal directions;
3. Appropriate placement of rooms in a building or zones in a development;
4. Proportions according to mathematical formulas, the precise knowledge of which is contained in *Sthāpatya-Veda*;
5. Analysis of the site, soil, topology, location and surrounding structures, water bodies, and specific environmental features;
6. Grid format with key central area, both in building design and city planning;
7. Low-density developments and garden cities;
8. *Vāstu* perimeter enclosures;
9. Abundant cross-ventilation and cross-lighting, ecologically sustainable design, and use of non-toxic, natural construction and internal materials; and
10. Vedic landscape and garden designs.

According to Maharishi (1998, pp. 8–9), “people do not know that many misfortunes and even diseases arise from lack of proper orientation of the houses in which they live and work. *Vāstu* is the design and structure of a building in harmony with Natural Law, which takes into consideration...the proper orientation of the house with its entrance facing due east”.

Hence the orientation of dwellings shown in Figure 1, where the most desirable orientation for the front of the house and main entrance is facing east, toward the rising

Lima, Perú) rather than the more typical orientation toward the sun's daylight arc (i.e., toward southern light for homes in the northern hemisphere and toward northern light for homes in the southern hemisphere), the standard practice for contemporary, as well as Feng Sui, architectural design. No such difference in lived experiences was statistically observed in the data ($F = 0.32$, $p = \text{NS}$), meaning the benefits reported in the first study were consistently experienced irrespective of whether the occupant lived in an MVA home located in the northern or southern hemispheres despite uniform orientation to the sun's eastern daily transit.

In the third empirical study (Maheshwari & Werd, 2020), using the Torrance Test of Creative Thinking before and after moving into an MVA-designed office building, data of an architectural firm showed a 50–85% increase in employee verbal (score 1.90 at pre-test and 3.50 at post-test, $p = 0.02$) and figural (score 3.56 at pre-test and 5.27 at post-test, $p = 0.002$) creative originality. According to the authors, "this research is noteworthy because it is the first longitudinal study to empirically examine, in an organisational context with real employees using standardised measures, the effect of architectural design choice on workforce creativity" (Maheshwari & Werd, 2020, p. 132).

The fourth study, on this same population using the Workplace Wellbeing Index, found a significant improvement in the health and well-being of employees after they relocated to the MVA office building (Maheshwari et al., 2022). Data showed employees in the company experienced an 8% higher level of health and well-being when working in the MVA building as compared to working in a conventional office building ($p < 0.05$).

Lipman et al.'s (2022) review of health and MVA included reports of empirical findings of specific principles used in Vāstu architecture (such as benefits associated with head direction during sleep and the time to complete tasks when facing different cardinal directions) as well as more holistic benefits of applying all the principles of MVA together. Among the most important benefit ascribed to designing and living in Vāstu architecture relate to balanced mental and physical health. This balance comes from many sources. For example, Maharishi (1998, p. 15) listed the following as potential influences: orientation of buildings, placement of rooms, proportions and Vedic measurements, slope of land, shape of land, unobstructed rising sun, influence of the environment, and location of bodies of water vis-à-vis the dwelling. Maintaining equilibrium between the sensory organs or *Gyanendriya* (i.e., ears, skin, eyes, tongue and nose), the sense perceptions or *Tanmātras* (i.e., sound, touch, vision, taste and smell), and the five elements or *Mahābhūtas* (i.e., space, air, fire, water and earth) is apparently central to this balance (Cox, 2010; Krishna, 2001).

However, while several well-prepared descriptions of MVA have appeared in print (e.g., Hartmann, 2015; Maharishi Vedic Education Development Corporation, 2009) in addition to the four empirical studies cited above, no detailed case studies of MVA houses have been published,

least of all none for homes in non-Western locations. The present study is therefore guided by the following research question: How has Maharishi Vāstu Architecture been actualised in Perú, and what do owner-occupants report about its impact on their lived experience and health?

2. Method

2.1. Case study structure

The case study approach applied in this research is akin to the typo-morphological approach described by Susilo (2007) in his analysis of Vāstu architecture in Kerala, India. Susilo traced the roots of his approach to the earlier work of Italian art historian Giulio Carlo Argan, an approach to architectural analysis more recently explained by Pourmohammadi et al. (2020). Specifically, we have applied the multiple-case (embedded) design (i.e., the Type 4 model) of Yin (2018) in which: 1) a *context* contains 2) more than one *case* with 3) one or more *embedded unit of analysis*. The purpose of such a study is what Daher (2024, p. 1) calls investigating the "effect of different levels of place understanding".

A case study is a form of research which seeks to uncover, through multiple viewpoints (i.e., numerous typo-morphologies), detailed knowledge of an event, individual, group or phenomenon. In our study, houses designed according to MVA in Perú are the case. In logic models such as this, context refers to the 'conditions' in which a case is situated, and can include elements such as environmental, theoretical, practical and political considerations which affect the case. According to Yin (2018, p. 287), an embedded unit of analysis is "a unit lesser than and within the main case...from which data also are collected". In our case study, owner-occupants of MVA-designed houses are these lesser units of analysis. Figure 3 shows the tripartite research design structure applied in this study.

1. Research Context. The context for this study is architectural theory and practice in Perú and the universe of policies, bureaucracies, developers, construction companies, and house designs within it. While the broader context extends historically from ancient Peruvian architecture through the Incan empire and colonial period to the present, focus could be given to the last 50 years of design and practice, a timespan of theory and practice recently

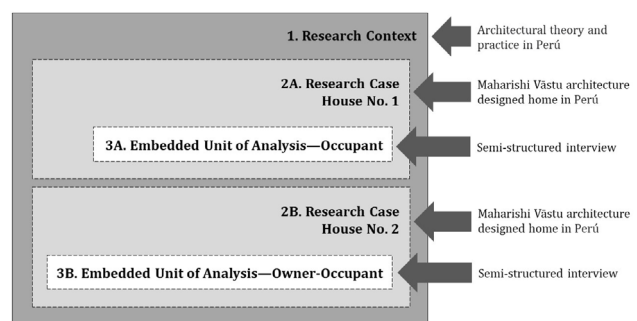


Figure 3. Tripartite design of the Type 4 case study

detailed by Gyger (2019). It is not, however, within the scope of the present study to detail this breadth of theory and practice. Suffice it to say that our current research can be set against the backdrop of

the universalist claims of architectural modernism in the postwar period when it [i.e., Perú] was faced with an unsettling world of rapid demographic growth, very low-income populations, intensifying economic modernization, and increasing rural–urban migration, which resulted in extensive unplanned urban development (Gyger, 2019, p. 1).

But Gyger went on to suggest that in this context

The [Peruvian] architect could offer improvements to the planning of urban layouts, to the design of building components and methods, to construction standards and structural engineering, or to the internal disposition of the house (separating functional zones, maximizing available light and air, or minimizing wasted space) (Gyger, 2019, p. 3).

Based on the ten forementioned features of MVA outlined by Bonshek (2020), to each of these potential improvements offered by Gyger it can reasonably be supposed that the architect–master builder of Maharishi Vastu Architecture may contribute something valuable to contemporary Peruvian house design and construction and this proposition will be explored in the following.

2. Research Cases. Two MVA cases were used in this study: House No. 1, located in Cieneguilla in the province of Pachacámac (in the La Raya Urban Development); and House No. 2, located in Pachacámac in the province of Lurín (in the Huarangos Urban Development). Figure 4 shows where these two houses are located. [Confusingly for non-Limeño, there is a province of Pachacámac, one of 196 provinces, and a city of Pachacámac in the province of Lurín]. Both houses were designed by this study's second author and are approximately a one-hour drive southeast of downtown Lima. It should be noted that one of the unique aspects of this case study is that both houses are located in the second driest capital city in the world after Cairo and many of their design features have necessarily taken account of this fact.

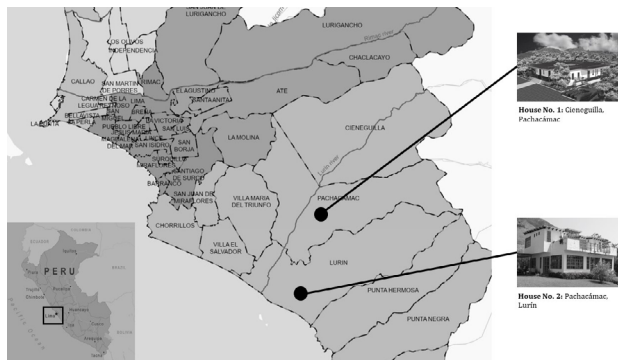


Figure 4. Location of two houses used in the present case study

In order to typo-morphologically analyse these two houses, we relied on four sources of data: 1) published accounts; 2) floor plans and their relation to an indicative floor plan and placement of rooms in MVA home design shown in Figure 1; 3) a description of building materials and construction techniques provided by the architect; and 4) photographic evidence. These four sources of material data were combined with self-reported lived experiences of owner-occupants (i.e., the embedded units of analysis) to triangulate findings from this case study with international data from Fergusson et al. (2020).

2A. House No. 1 is located in Cieneguilla (12.09° S, 76.75° W, elevation 300 m), in the province of Pachacámac. Pachacámac is divided by the River Lurín and Cieneguilla is situated on its southern bank with a dry, mostly uninhabited mountainous region to the south and east. Forty kilometers southeast of Lima, Cieneguilla is known for its famous Incan ruins, particularly Huaycán de Cieneguilla at altitude 450 m (Marccone & López-Hurtado, 2002) which forms part of the 27 archaeological sites found in and around Cieneguilla in both the upper and lower reaches of the Lurín Valley.

2B. House No. 2 is located in Pachacámac (12.26° S, 76.88° W, elevation 500 m), in the province of Lurín. For 50 years, the Lurín Valley has been the subject of significant archaeological and historical study (e.g., Earle, 1972) and has been the centre of attention for a better understanding about the role of climate change in human history (Burger, 2014). Parts of the Lurín Valley along the coast are being incorporated into Lima and are now essentially southern suburbs of the capital. Heading south along the Panamerican Highway, what was once agricultural land is fast becoming industrial and residential.

Both houses have been mentioned in earlier publications. As shown in Figure 5, according to León (2011) in *arq: Architecture Research Quarterly*:

the world is poorly constructed and what we are experiencing now is a result of it...[but] salvation is in the hands of Vedic architecture, [an Indian] design system which pre-dates Feng Shui and provides the exact dimensions, formulas and orientations for a perfect life. Its objective is to ensure that its inhabitants obtain the full support of natural law to enjoy a life of growth, prosperity, health and family success.

León went on to suggest that

the promise of Vedic design may be fodder for sceptics, but the results of the phenomenon reveal that [traditional architects] knew what they were doing: the calculations that [Vedic] architecture cast seven thousand years ago provided harmony and prosperity to individuals in a house. These building principles remained hidden in India for several millennia. In 1990, the Indian physicist Maharishi Mahesh Yogi revived the Vedic construction guidelines and applied them in Europe, the United States and Japan.

Tower Oaks Boulevard, an office building located in Rockville [Maryland] and built on the foundations of green architecture, is considered the friendliest construction on the planet using the Leadership in Energy and Environmental Design (LEED) certification system.

The house in Cieneguilla is described by León as a 'Chacana house'. Designating House No. 1 as a Chacana house is highly relevant in the present context, because the word Chacana can mean a traditional house which honours its historical roots, i.e., to Andean culture and architecture more generally, but can also mean, as we will show later in this study, something far more profound and far-reaching. León concluded that "[the] Chacana house exhibits components that explain a vision of the universe".

A second publication based on an interview with the second author, titled 'A House with Harmony' (Aguilar, 2013) and shown in Figure 6, covers topics such as the foundation of MVA in the consciousness of the architect, sick-building syndrome, natural materials used in MVA (such as wood, stone and brick), and interior design characteristics. House No. 2 is photographed in this article, which was published in *Casa y Mas*, the architectural journal *El Comercio*, the most important newspaper in Perú.

Architect Ortiz Cabrejos noted the following key principles of MVA:

[Maharishi Vāstu] architecture brings the possibility of being in harmony with nature. The first principle is the orientation of the house, with only two considered favourable: east and north. The earth depends on the sun, which produces its most powerful vital energy at dawn. Therefore, it is recommended that houses be oriented towards the sun with the main entrance facing the rising sun. The second principle is placement of the activities and rooms related to the five elements: fire, air, earth, water and space... The third principle is space, i.e., places in the house



Figure 6. Publication of 'A House with Harmony' (Aguilar, 2013) in *El Comercio*

that capture vital energy and refers to the central area of the house. There must not be anything obstructing this space, and ideally it should be free of bathrooms, stairs, columns and beams. The last principle is the use of appropriate proportions and creating modulated measurements based on the inhabitants of the space (Aguilar, 2013, p. 4).

3. Embedded Units of Analysis. In a Type 4 case study there are three elements of analysis: context, case and embedded unit. Thus, where the case can be analysed typo-morphologically, lived experience requires a different level of data and analysis (Yin, 2018, pp. 101–103). In this way, the embedded units of analysis in our case provide the lived experience detail that documentation, plans and photographs cannot. Two participants who live in the houses were interviewed.



Figure 5. Publication of 'Vedic Architecture: Healthy and Sacred' (León, 2011) in *arg: Architecture Research Quarterly*

3A. NRC is a 46-year-old female economist and current sole occupant of House No. 1, in which she has been living since 2009; NRC practices Transcendental Meditation.

3B. RV is a 61-year-old male and owner-occupant of House No. 2. RV is a real estate developer who built the house in 2010 after which he used it mostly as a weekend getaway and family retreat; RV practices Transcendental Meditation.

Semi-structured interviews were conducted in English by the first and second authors with both participants in early 2024. The second author also acted as translator to help when required. Semi-structured interviews rely on a series of guided, open-ended, non-leading questions designed to elicit opinions, perspectives and feelings related to a phenomenon (Karatsareas, 2022), in this case the phenomenon of living in a house designed according to the principles of MVA. In the earlier study (Fergusson et al., 2020), nine demographic and 32 open-ended questions related to personal experiences of health, security, and quality of life, to family-relations, and to designing and building the MVA house were explored. Inferential statistical analysis was used to analyse quantitative data, and thematic analysis (Braun & Clarke, 2023, p. 2) was used to code and analyse qualitative data in which ‘themes’ were “conceptualized as meaning-based, interpretative stories” in order to encapsulate core or common experiences of owner-occupants on topics related to MVA. Questions derived from the findings of MVA owner-occupants from Fergusson et al. (2020) were used to structure the questions used in this case study. Comparative analysis of the earlier international findings (hereinafter referred to as ‘Study-2020’) and findings from the present study was conducted to generate the following lived experience results in Perú.

2.2. Ethics

This research project was approved in October 2023 by the Research Ethics Approval Committee of Maharishi Vedic Research Institute (approval no. MVRI-2023-026). The project was conducted in association with Instituto

Maharishi de Ciencia y Tecnología del Perú and both participants provided written informed consent. Copyright of all data, including images and house plans, was transferred to MVRI for the purposes of this research and is used with permission of the homeowners; other rights remain with the original copyright holders.

3. Results and discussion

3.1. Historical sources of design

In MVA, as in all other variants of Vāstu architecture, the floor plan of a dwelling is based on a grid. One of the most common grids is 3×3 , called the *Pīṭha* diagram (*Mayamata*, VII.8–21), but there are at least 32 grid diagrams for different buildings and settings, starting with four squares (*Sakala* diagram) and increasing to as many as 1,024 squares (*Indrakānta* diagram) (*Mayamata*, VII.2–7). For example, Audet (2016, p. 37) refers to the *Pīṭha* diagram in relation to Maharishi Vastu architecture and group theory, but his main focus is on the *Mandūka* diagram with an 8×8 grid (Audet, 2016, p. 51). According to the Institute of Vedic Architecture and City Planning (2019, p. 204), “the basis of the measurement system [in MVA] is the square...each [square] is assigned a particular quality that guides the Vastu architect in the design and development of the house or other construction he is engaged in”.

As shown in Figure 1 (left), each square formed by the grid is associated with a specific quality of life or influence from the sun. Figure 7 (left) schematically represents the nine squares (or *Padas*) of the *Pīṭha* (पीठ) diagram and identifies the designated values from Vāstu architecture associated with each square because, as noted above, Maharishi explained that “different energies of the sun correspond to [a different] specific function and activity for each room”. Both floor plans of House No. 1 (Figure 7, right) and House No. 2 (Figure 12) largely conform to this core diagram. Note, in Vāstu architecture the placement of a room is not necessarily on or touching the grid but is located in its relevant square.

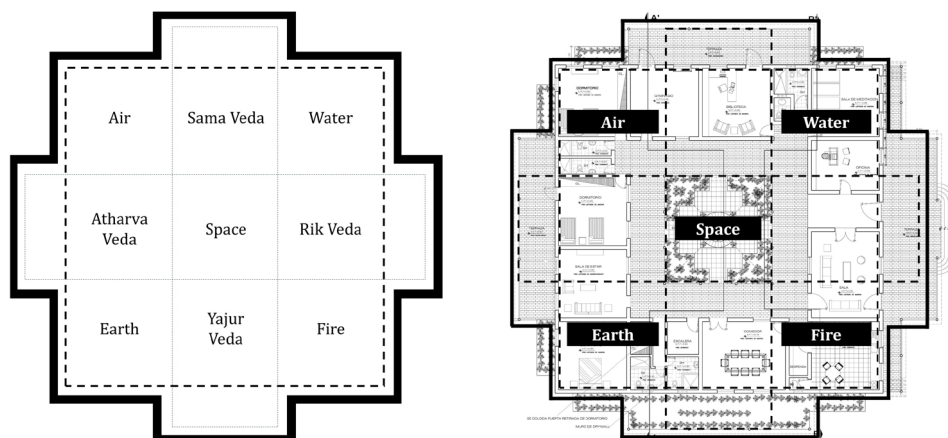


Figure 7. Pīṭha diagram with designated values associated with each of the nine squares (left); superimposition of the Pīṭha diagram onto the indicative floor plan of House No. 1 (right)

The qualities associated with the nine squares in the Piṭha diagram have been identified. These belong to the four Vedas (or 1 + 3 essential bodies of knowledge, with Rik Veda to the east being pre-eminent) and five elements (earth, water, fire, air and space). The Mayamata (VI.1–28) also specifies how these grids are to be oriented, vis-à-vis the four cardinal directions (the four Vedas) and the four intercardinal directions (earth, water, fire, air), with space forming the central part of the design. In MVA, this central zone, called the *Brahmasthan*, is considered fundamentally important as it provides the stable, unmoving, and unchanging heart of the house. Audet (2016, p. 53) examined the importance of the Brahmasthan in relation to the 64 squares of the Mandūka diagram, showing how the inner four squares form “the heart” of the design and are always “reserved for quiet activities”.

Historical evidence suggests an association exists between the ancient Vedic culture of India and the ancient cultures of Latin America (e.g., Kumar, 1934), a topic also discussed by the Institute of Vedic Architecture and City Planning (2019, p. 19) in respect to “Toltec, Mayan and Inca traditions”. In ancient Perú, apparently the Piṭha diagram and others like it were called the Chacana diagram (sometimes also referred to as the Chacana Cross or Andean Cross). The Quechua word ‘Chakana’ means bridge, specifically the integrating link or bridge between the three spheres of life—mind, body, and spirit—and is often associated with the constellation of the Southern Cross (Spina, 2013) and the transformation of human consciousness. Albornoz (2023, p. 63) calls it “an Andean symbol of wisdom”.

The Chacana diagram is still considered important. Van Norren (2020), for example, mapped the Chacana diagram to United Nations’ Sustainability Development Goals; Chunnata et al. (2019) analysed its nine-fold structure from the perspective of Andean cosmology and fractal geometry; and Gullberg (2020) linked it to astronomy in the Incan empire. A geoglyphic example of the Chacana diagram, dating back at least 4,000 years BCE, has even been found carved into the Palpa Lines (14.38° S, 75.10° W, elevation 1,258 m), just south of the more famous Nasca Lines. Other Chacana diagrams, for example in architecture and pottery, date from the same pre-Incan period (Euribe, 1990). Like the Piṭha diagram, the Chacana diagram is always aligned to the cardinal directions.

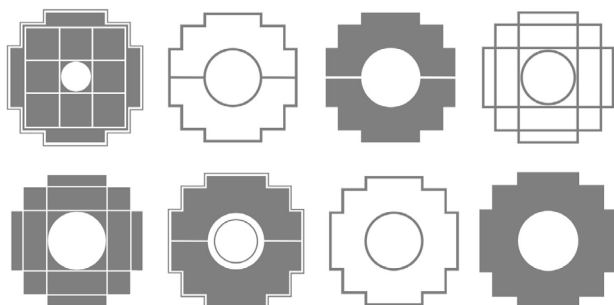


Figure 8. Eight common schematic representations of the Chacana diagram

Figure 8 shows eight schematic representations of the Chacana diagram. The 3 × 3 grid is not always obvious in these images but is embedded within it. While many different versions of the diagram have been identified in traditional ceramics and textiles as well as in architectural design, with most showing the central area of space, of interest is the top row, second from left version in Figure 8 because it shows both the outer shape formed by the grid as well as the three-step ‘bridge’ formed by the upper portion of the diagram.

This shape has been found throughout Latin America and is the basis for the three-step pyramid design (in elevation) for temples and buildings of status commonly associated with many pre-Incan and Incan cultures. Albornoz (2023, p. 63) states this “three ascending–descending steps of the Chakana...represent both the expansion and the sustaining of the community”. While it is not possible to say with absolute certainty that the Piṭha diagram used in Vāstu architecture and the Chacana diagram used in ancient Perú are one and the same, but the architect of Houses No. 1 and No. 2 made the connection between them and was inspired to incorporate elements from both diagrams in his floor plans.

3.2. House No. 1

An artist’s impression of House No. 1 is shown in Figure 9. In the *Mānasāra*, a one-storied building is called an *Ekabhūmikā* (*Mānasāra*, XIX.107), and there are said to be eight types (i.e., *Vimāna*, *Haringa*, *Alaya*, etc.) (*Mānasāra*, XIX.108–112). House No. 1 is a three-bedroom, five bathroom, one-storied dwelling of 632 m². In the *Manushyālaya Chandrikā* (4.25), such a house is called a *Chaturshala*, with ‘chatur’ meaning four and ‘shala’ meaning hall; in effect, it is a ‘courtyard-type house’ with four wings. In the *Vishwakarma Prakash* (4.190–191) the Chaturshala design is referred to as the house of a king and given the owner of House No. 1 is also the founder and owner of La Raya Urban Development, this seems appropriate. As Perú is seismically-active the owner wanted his house to be constructed with a concrete frame, and therefore concrete col-



Figure 9. Artist’s impression of House No. 1 from the northeast

umns and beams and bricks were used for construction, with adobe applied to finish the brickwork. In this sense, construction of House No. 1 is different to, but reminiscent of and partially connected to, the four main building techniques of traditional Andean coastal houses, including the use of adobe (Moore, 2021).

All doors and windows were made with local eucalyptus wood cut and fashioned to size. A raised local stone embedded concrete platform forms the building's plinth. Inner and outer terraces were constructed of wood columns and beams, with bamboo roofs designed to provide shade and create a harmonious visual relationship between the house and local landscape, which is deserticolous and dry. Climate in Cieneguilla is categorised as subtropical desert, with yearly temperatures averaging 21.0 °C (69 °F), about 4% higher than Peru's average. Cieneguilla typically receives only about 2.1 mm (0.08 inches) of rain per year and has an annual average of just 6.3 rainy days. House No. 1 uses alternative energy from solar panels. However, after its early years of just using solar, more energy was needed after which a mix of solar and conventional main grid energy was used. Gray and black water are processed through septic tanks and, after treatment, applied for use on gardens.

The fundamental design idea behind House No. 1, besides use of the Piṭha diagram, was for the house to incorporate Andean coastal house design principles, to look like other Andean coastal houses in the region, and to be designed in harmony with the earthy and sandy environment of this desert coastal area. The house design also remembers haciendas and Peruvian coastal country houses, which typically had a central area or open patio. This kind of design was brought to Perú by the Spanish and is called 'Casa-patio' because of its central area (Cabello Montoro, 2017). In this way, House No. 1 draws inspiration from three main architectural histories: Vedic, ancient Peruvian, and colonial Spanish.

According to León (2011), several unique features of the floor plan can be observed in House No. 1, and these are graphically illustrated in Figure 10:

To the northwest, the intercardinal point that represents air, is the guest room, due to its mutability. In the northeast, the intercardinal point that represents water, are the library and the meditation room, due to the fluidity of these activities. To the southwest, the intercardinal point that represents earth, is the homeowner's room, as it is a stable point in the house. To the southeast, the intercardinal point that represents fire, is the kitchen and the fireplace, as agents of heat and transformation. Javier Ortiz Cabrejos, Vedic architect at Maharishi Vedic University in India, goes on to propose a fourth design principle: the central space of the house. Because nature is organized by centers and axes, he says, this space is where the energy of the entire house comes together.

Bonshek (2020, p. 57) pointed out that in MVA-designed houses these

eight directional aspects are also considered in the design and zoning of an MVA village, town, city or urban development, where roads run north/south, east/west in a grid format, and are designed with ample recreational space, gardens, focal areas, parks, pavilions, community halls, cross-ventilation, and organic gardens. Integral to the city plan is a central area, or Brahmashtan, and the city is often surrounded by a green zone.

The central area in an MVA house is called the Brahmashtan (ब्रह्मस्थान), one of the practical purposes of which is to encourage a "flood of natural light to illuminate the inner core of the building" (Bonshek, 2020, p. 62). As shown in Figure 10, in the case of House No. 1

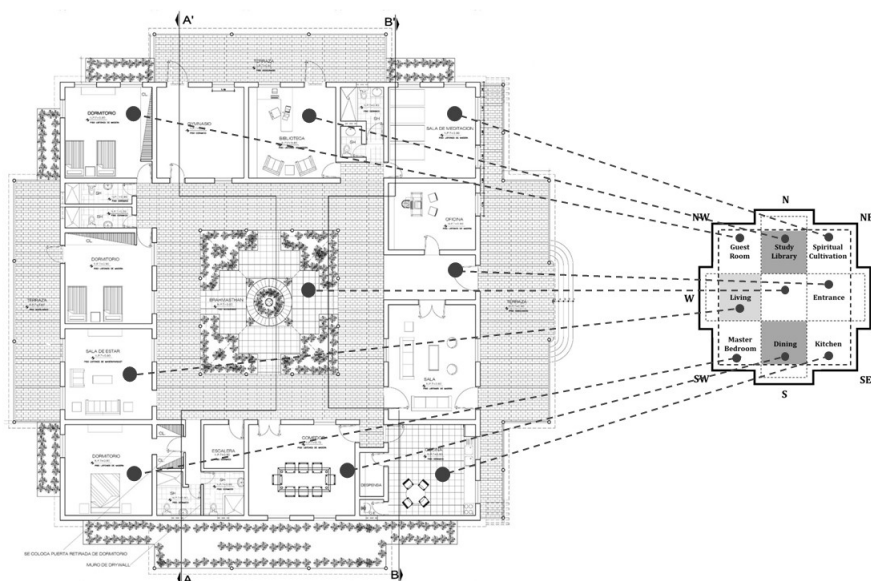


Figure 10. House No. 1 floor plan in relation to the indicative floor plan of an MVA home

the Brahmasthan is an open courtyard connecting all the rooms with light and cross-ventilated air, and its morphological and historical significance in many cultures, including in Vāstu architecture, has been analysed by Sanjune and Guneratne (2018). However, the more fundamental purpose of the Brahmasthan is as a “place of wholeness and silence (with the central point, called the *Brahma Nabhi*). The opposite sides of the Mandala [design] represent complementary qualities that support and reinforce each other and are said to create resilience through symmetry” (Maheshwari & Werd, 2020, p. 116).

In ancient Andean architecture, this inner space was referred to as the *Kancha* (or ‘enclosure’ in Quechua), and was considered a sacred space of meeting, particularly when referencing temple complexes, such as Qorikancha, the Golden Temple in Cusco. Such a designation of space for ‘coming together’ applied to not only palaces and official meeting buildings, but also to towns and more ‘modest’ houses (Vranich et al., 2014).

Figure 11 presents a series of photographs of House No. 1 and shows their vantage points (represented by the point and arrow direction). The house features a productive fruit garden to the east and south, and a separate meditation pavilion to the west at a higher elevation. The house embodies the tripartite form of the Chacana dia-

gram as it radiates out from the center of the circle in the middle of the garden courtyard, to the external form of the house, and finally to the terraces and garden beds, remembering the three steps of the Chacana diagram that represent the three steps to the three worlds, described above.

NRC reported a range of benefits of living in House No. 1, and these have been organised into three main categories: physical and mental health; psychosocial well-being; and other benefits.

Physical and mental health: NRC said her health had improved since living in MVA: “I am very healthy; I have not been sick of anything since moving into the house; I am constantly in good spirits and with enthusiasm to do things at home and at my work; I have done very well in everything”; and “in all these years living in the Vāstu house I have not been sick, except for a cold from which I recovered very quickly in two days”. NRC also reported her sleep had improved since being in the house. Given quality and quantity of sleep are directly (and causally) associated with a variety of health-related pathologies (Sotelo et al., 2020), this positive experience was emphasised by NRC in her interview.

NRC’s experiences are consistent with results from Study-2020, which found 68% of occupants of MVA houses

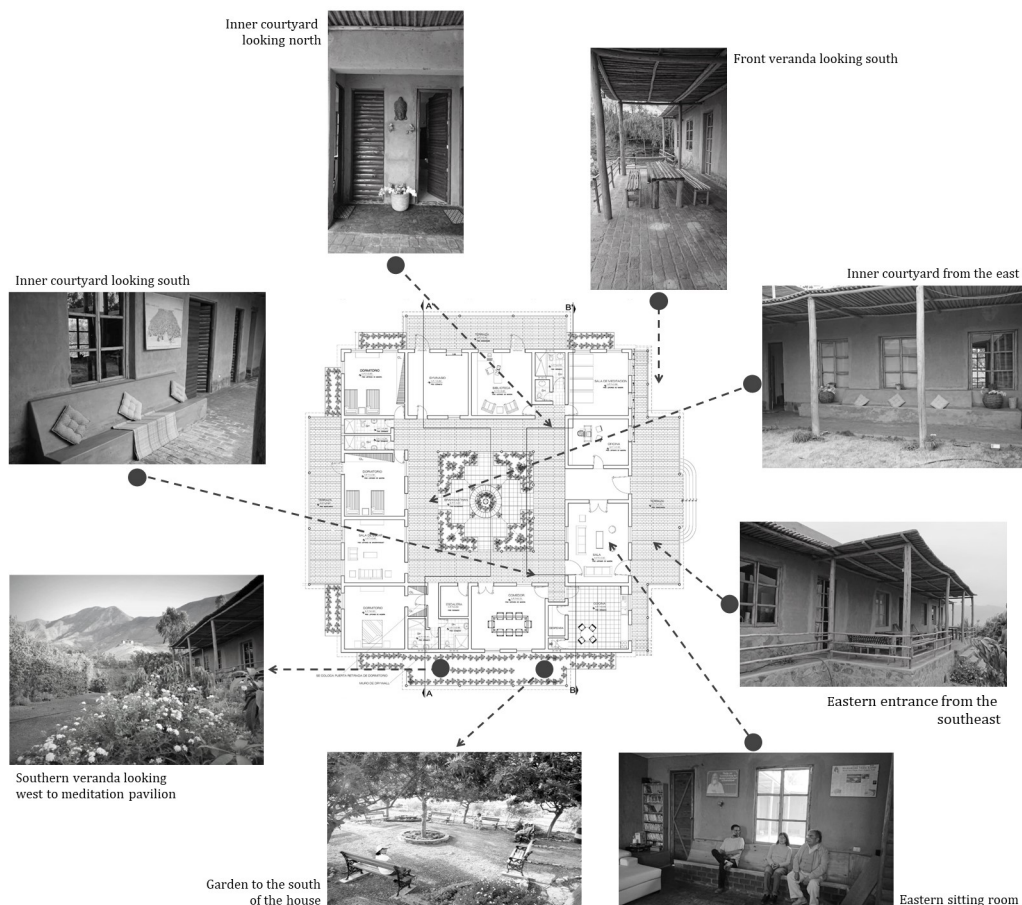


Figure 11. House No. 1 floor plan in relation to interior and exterior features and views

(107/158) reported improvements in physical health, and 60% (95/158) reported improvements in sleep. Concerning mental health, NRC said “I have definitely progressed [having suffered depression in the past] and feel mental strength”, a finding consistent with Study-2020 in which 78% of occupants (123/158) reported experiences of improved mental health.

Psychosocial well-being: Research on psychosocial well-being is comprehensive, particularly since the COVID-19 pandemic, and Latin America has been the site of much of this investigation, although often focused on psychosocial risks in only one occupation or with one risk (Pujol-Cols & Lazzaro-Salazar, 2021). Psychosocial well-being incorporates not only mental and emotional well-being but also encompasses social health and functioning, personal growth, happiness, life satisfaction, self-esteem, social functioning, and a sense of purpose in life. Given that 79% of occupants in Study-2020 (123/158) reported an increase in personal meaning and purpose in life as a result of living in MVA, this dimension is also important in the present context.

NRC said “I feel comfortable and protected living in this Vāstu house; I sleep very comfortably, my meditation programs here are generally deep, I am happy here and I like to spend time at home, I am very happy with my spiritual advancement, which is what fascinates me the most” and “I feel the joy of everything around me (plants, animals, neighbours, etc.); life is fascinating!”

Seventy-six percent of occupants in Study-2020 (120/158) similarly reported they experienced a sense of safety and security living in MVA homes. One female occupant in New Zealand said: “It feels like a safe haven, a sanctuary”, while a second in Florida reported “We feel protected and nourished. Visitors to the house, particularly women, do not want to leave; they feel safe here”.

NRC went on to say that she is better able to fulfill her “goals since living in Maharishi Vāstu” and “I noticed here at home there has not been any kind of argument between the people who have come to visit; on the contrary, they feel very comfortable here. The visitors I have had who do not know Vāstu make comments that are repeated frequently, such as: ‘I felt really good in this house! That gives me peace, relief, comfort’; ‘how good it feels to be in this house’; ‘when I entered the house I felt something very nice; the house has some magical thing, what have they done to it?’; and ‘I slept very peacefully in this house, normally this does not happen to me’”. In conclusion, NRC stated: “My life is simple, uncomplicated, and I am happy and I love that!”

Other benefits. NRC contrasted her experience living in a south-facing home prior to living in House No. 1 in this way:

In my previous house, although I lived well, there were times when I felt and noticed that it cost me a lot of time and effort to achieve the things I wanted. No matter how much effort I put into my actions, I always had obstacles to overcome, to deal with setbacks and other negative external factors, even in the smallest and simplest things. Sometimes I

had nightmares, and my life and my health were put at risk twice. For all that, sometimes it seemed to me that life was unfair to me. Even though I had a positive attitude toward everything, adverse circumstances happened to me, and I experienced depression for a while.

On the other hand, during my life in this Vāstu house from the end of 2009 until now, the opposite happened and everything was easier. I have been very healthy, I sleep peacefully; I have not had a single nightmare; I walk calmly and peacefully; I have a lot of energy and vitality, I still feel very young and my appearance is youthful for my age, according to comments that people make about me. I enjoy life more and my happiness lasts.

NRC also reported that she had “done well at work. I have been very successful winning awards at the company I work for. Now I am starting something of my own”. Moreover, “I am always cheerful, happy, I walk happily through life, often after meditating...I have so much love that I feel like hugging all the people in the world to give them lots of love and joy. I feel like I do not wish to leave the Vāstu house. I can say that living in a Vāstu house is ideal for every human being and I highly recommend it”.

3.3. House No. 2

An image of House No. 2 looking from the northeast is shown in Figure 13. In the *Mānasāra*, a two-storied building is called a *Dvibhūmikā* (*Mānasāra*, XX.1), of which there are six types (i.e., *Daṇḍaka*, *Svastika*, *Maulika*, etc.), with the first story sometimes designed differently from the ground floor. In all cases, however, clearly enunciated heights of floors, ways of positioning balconies and stairways, design and location of pavilions, and so on have been prescribed. House No. 2 is a three-bedroom, three bathroom, two-storied dwelling of 263 m², and it too aligns with the Pīṭha diagram of the Mayamata, as shown in Figure 12.

House No. 2 is also built of concrete columns and beams but in this case brickwork has been rendered and painted. This modern house has an open terrace on the first floor to the north side facing a large and well-kept garden with a pavilion to the east. In MVA, a pavilion of this type is called a *Maṇḍapa*. The house uses conventional electrical energy and has access to both freshwater supply and wastewater systems of the city.

Climate in Pachacámac is categorised as subtropical desert climate, with yearly temperatures averaging 20.5 °C (69 °F), about 3% higher than Peru's average. However, Pachacámac typically receives only about 2.0 mm (0.08 inches) of rain per year and has an annual average of just 6.0 days of rain (i.e., 1.6% days of rain annually). This area of Pachacámac is also considered historically momentous because the most important temple and oracle from ancient Andean civilization is located nearby (Juárez, 2019), with the temple containing records which are more than 2,000 years old.

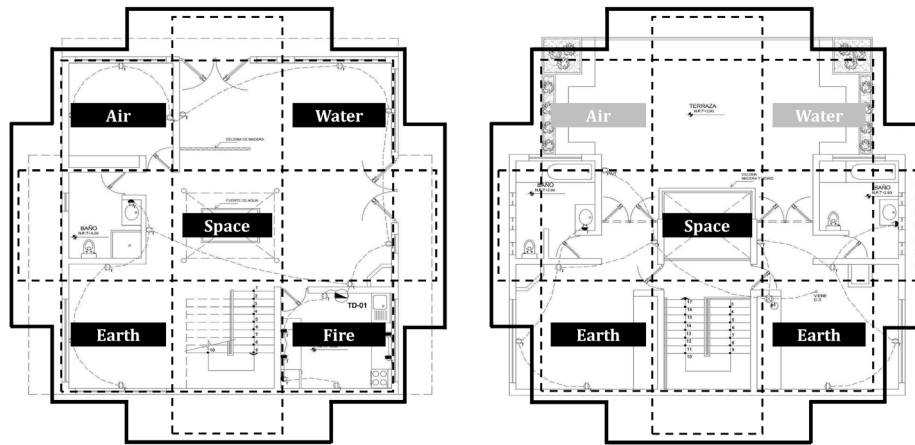


Figure 12. Superimposition of the Piṭha diagram onto the indicative ground floor (left) and first floor (right) plans of House No. 2



Figure 13. House No. 2 front view from the northeast

Figures 14 and 15 show the floor plans of House No. 2 and their relation to the indicative layout of a 3×3 house grid. On the ground floor are the entrance to the house from the north, with a guest bedroom to the right and quiet living space to the left. Of most interest is how the entranceway opens on to the large inner Brahmasthan, with an east entrance to the left leading into the garden and pavilion. The kitchen is located in the standard position to the southeast. But the first floor is different. It is simple and only houses two bedrooms: the master bedroom to the southwest and the main guest bedroom to the southeast, both with ensuites. The rear stairway opens to an interconnecting walkway overlooking the Brahmasthan which contains a soothing water feature.

Figures 16 and 17 present a series of photographs of House No. 2 and show their vantage points (represented by the point and arrow direction).

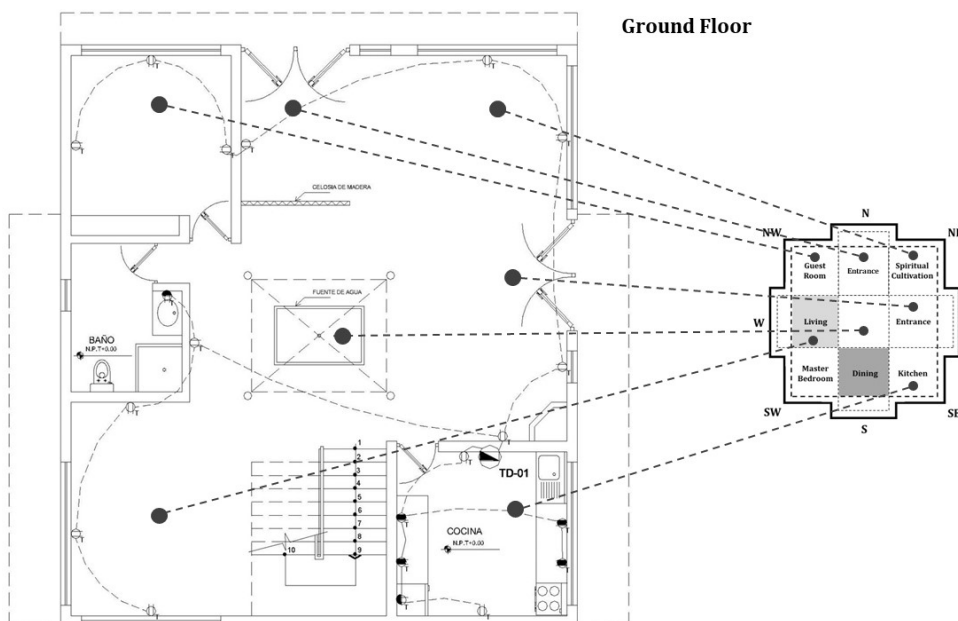


Figure 14. House 2 ground floor plan in relation to indicative floor plan of MVA home

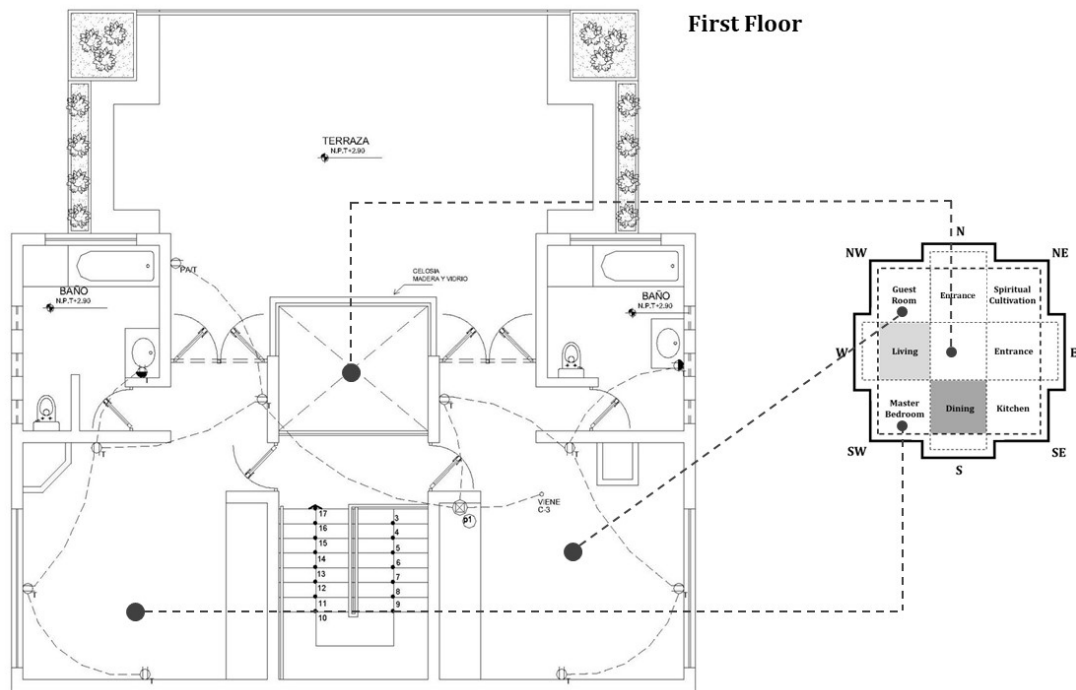


Figure 15. House 2 first floor plan in relation to indicative floor plan of MVA home

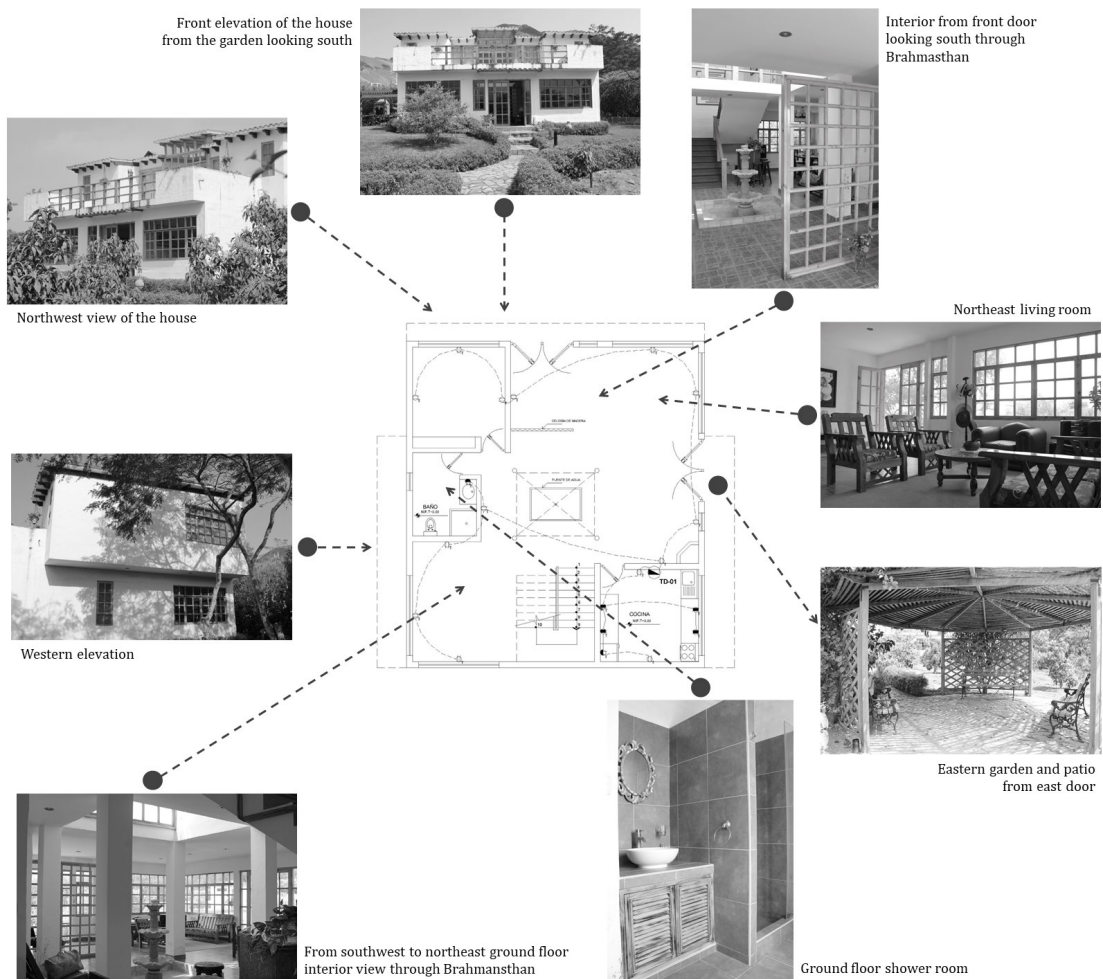


Figure 16. House No. 2 ground floor plan in relation to interior and exterior features and views

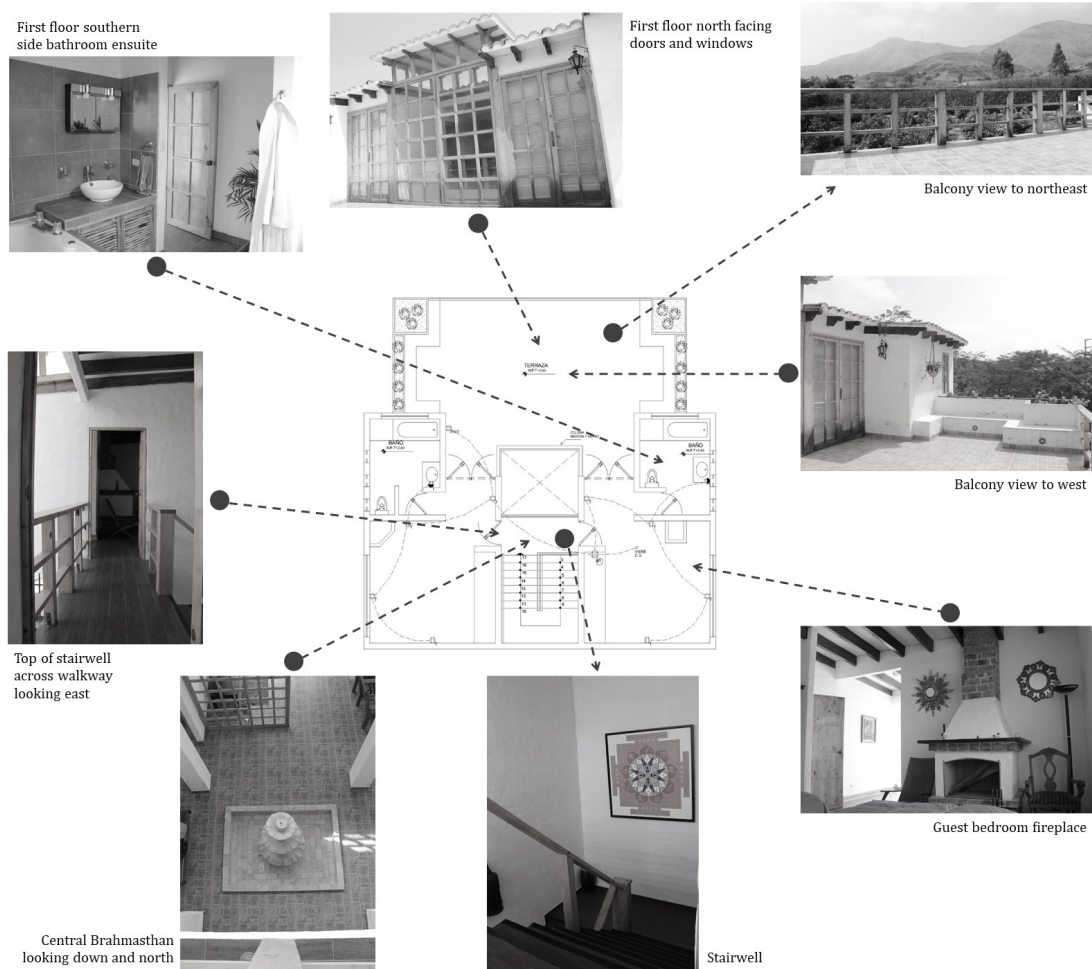


Figure 17. House No. 2 first floor plan in relation to interior and exterior features and views

Like NRC, RV reported a range of benefits of living in House No. 2, and these too have been organised into three main categories: physical and mental health; psychosocial well-being; and other benefits.

Physical and mental health. Consistent with both NRC and findings from Study-2020, RV stated the “quality of my sleep in the house is very quiet and calm. When you wake up you feel different. It’s a very good experience.” And “my physical health has improved, but not too much because I try to be healthy anyway; I do everything to be healthy in Lima as well. So changes in physical health are not as great as improvements in sleep. But my meditations in the house are much deeper. I think my behavior has improved because of my better mental state, better thinking”.

These experiences are consistent with both NRC and findings from Study-2020. For example, one male Vāstu home occupant in Iowa said: “There is a tremendous feeling of upliftment on every level: physically and health-wise, emotionally and spiritually,” and another in United Kingdom reported “I have felt enormous benefit from moving into a Vāstu home. I am healthier, have an improved financial situation, and above all I am experiencing

a greater level of happiness and contentment.” RV went on to say that “I feel as if I am in harmony with my life. I am in complete balance, in equilibrium with my life”.

Psychosocial well-being. This aspect of human development was perhaps the most pronounced of all areas of improvement for RV. He said: “I’m sure that I changed part of my life, or it could be my entire life. For example, I think my behavior has changed. It could simply be because I am older, but I don’t think so; I think it is my house which is responsible for my improvement. I would call this improvement ‘evolution’. I think that this process of evolution is better since I have lived in the Vāstu house. I am sure if I didn’t build the house my improvement, my behavior, would not be like this. I am a better person. I am sure this influence is coming from my Vāstu house”.

When asked to clarify what this experience means, RV went on to say “I am more tolerant. I am more tolerant with problems. For example, before building this house, I lost my passion, my way of understanding problems. After building the house I was changing, to be better. I was more tranquil, with an ability to analyse the problems. I noticed a little gap between the problem and the response; I now don’t answer immediately. This little gap spread to other

areas of my life, with my wife, with my friends, not only with work. It was first a feeling, a sensation, but step-by-step this gap of tranquillity became more real.” Such an experience resonates with another report in Study-2020 from a male MVA-home occupant in Vero Beach, Florida who said “There is an overall sense of well-being, order and harmony endlessly permeating from an infinite source of all that is good, supportive and nourishing to life, which is contained in the very structure of the home”.

RV went on to explain that “I was never an impulsive man. But I used to be intense. I am in business and my behaviour was very active and direct, and I would give answers to problems very fast. Now I notice the gap, to analyse, to understand not only the problem but especially the person who it is that I am speaking with. I think I can now understand better the person [I am interacting with].”

Like NRC, RV reported a greater sense of safety and security because of the house: “I feel safe and secure in the house, but it is not like a bodyguard. It is security inside me. This is because my behaviour has changed. Many of my friends, entrepreneurs have the same behaviour for 15 or 20 years. They changed a little. But I can see that I have changed a lot. Part of this change is a sense of security inside me. This means I can express my ideas with confidence, knowing that I always try to do my best, to do the good things, for me, for my family, for everybody, for the rest of the people. Without that security, you behave fast, trying to maintain control. I am now a far more secure person in myself. This experience increases when I am inside the [Vāstu] home”.

Other benefits. RV concluded by saying that “When I am in my Vāstu house, stress disappears. Much less stress than to be in Lima. Relationships with my friends increased, but in a good way. Better friends, and I think it came about because I became an easier person. Before building and living in the Vāstu home I think I was not as easy to get along with as now. It is now a relationship, but with balance. Visitors to the house do not want to leave. I say goodbye and they say, ‘No, we want to stay!’”

RV further explained “I would like to comment that there has not been a single meeting in my house in which the guests have not felt very good, happy, with feelings of happiness, to the point that they do not want to leave, and they always comment that they really like the house”. RV wanted to emphasise that “Maharishi Vāstu Architecture is a powerful tool; I think it is very important”.

4. Conclusions

In the context of Peruvian architects potentially offering, as Gyger (2019, pp. 1–3) proposed, “improvements to the design of building components and methods” and to the “internal disposition of the house” (including “separating functional zones” and “maximizing available light and air”) and based on the design of two distinctly different houses located south of Lima, this case study sought to understand how Maharishi Vāstu Architecture has been actualised in Perú, and to explore what owner–occupants report

about its impact on their lived experience. Such a detailed exploration of MVA has until now not been forthcoming, making the present study important in the context of both Peruvian and international architecture.

Results indicate that both houses were designed using the 3 × 3 Piṭha diagram described in the Mayamata and both are largely consistent with, and have been inspired by, the Chacana diagram of ancient Andean culture. While the former embodies the four Vedas and five elements, the latter is said to represent the ascending and descending bridge between the three worlds of mind, body and spirit, in addition to representing the ‘sacred’ Southern Cross. In both examples, the 3 × 3 grid structure is evident. But such layouts apparently have prosaic as well as more profound meanings, imbuing houses with a multidimensional aesthetic linked to universal values. It is this multidimensionality which gives these types of houses their fundamental purpose and deeper value. Historical evidence uncovered in the early 20th century and reinforced more recently by experts in MVA suggests an association exists between the ancient Vedic culture of India and ancient Andean culture. The architect of these two houses made this connection in the design of both houses featured in this case study. The nature and extent of any such association and how it historically came about could be the subject of future research.

Of perhaps most interest is how MVA has been adapted and made sympathetic to different local conditions, in this case to a dry, desert environment. Thus, while certain prescriptions are recommended in Vāstu architecture, a great range of possibilities of style and approach are possible. This is particularly obvious in the design and construction of House No. 1 which differs from typical western architecture in its use of adobe mud rendering, its open courtyard and wide verandas, and its location in such a harsh, extreme environment in a “region considered to be at high risk of climate-related hazards” (Bell, 2022, p. 205).

Moreover, the lived experiences of the occupant of House No. 1 and the owner–occupant of House No. 2 clearly evidence the benefits of living in a home designed and constructed according to the principles and practices of MVA. The detailed, personal disclosures derived from semi-structured interviews relate to improved physical and mental health, psychosocial well-being and a range of other benefits. While limited in number, these experiences are consistent with the findings of a much larger survey of the lived experiences of other occupants in 14 different countries, confirming the suitability of Maharishi Vāstu Architecture as a well-being approach to the design and construction of dwellings. Based on that evidence, further multidisciplinary studies on the relationship between lived experiences, including neurophysiological measures, and the built Vāstu environment would be worthwhile.

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