Balkrishna Doshi’s Contribution to the Development of Contemporary Architecture in India

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ABSTRACT
Balkrishna Doshi has more than 70 years as an architect contributing to hundreds of projects with the architectural firm he founded, Vāstu Shilpā Consultants. During his practice, Balkrishna Doshi has received many awards and recognitions. He was praised for his ability to create a balance and peace among all components; materials and non-materials. By studying his biography and the prominent ideas formulation based on the context in which he lives and practices as an architect, this paper aims to get a better understanding of his design thinking which leads him contribute to the development of contemporary vernacular in India. The analysis process is supported by Antoniades design theory that can be a tool to reveal the intuitive aspects of architects. From the findings it can be concluded that with an understanding and appreciation of deep traditions in Indian character and architecture that he understood from childhood, regardless of local prefabrication and crafts, Doshi could develop a vocabulary that is in harmony with the history, culture, and local traditions. Moreover, Doshi does not deny the foreign influence while working outside India. Instead, he incorporates it as a new world view in designing local lifestyles. These resulted in an epochal change in contemporary vernacular architecture in his home country, India.

Keyword: Balkrishna Doshi, Design Thinking, Contemporary Vernacular Architecture, India

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1. Introduction

Born in Pune, India, on August 26, 1927, Balkrishna Vithaldas Doshi (Figure 1), known as Balkrishna Doshi or Doshi to most people, is a world-renowned architect. For 70 years, Balkrishna Doshi has always created an architecture never flashy or trend-following. In addition, during his practice, Balkrishna Doshi has received many awards and recognitions. He is the first Indian architect to be awarded the Pritzker Prize—the highest award in architecture—for his lifetime of architectural practice and education, especially in his home country. The jury's citation praised Doshi for an architecture that has created balance and peace among all components; materials and non-material. Another awards he ever got include the Padma Shri award given by the Government of India in 1976, the Gold Medal of the Academy of Architecture of France and the Gold Medal of Indian Institute of Architects in 1988, the 6th Aga Khan Award for Architecture for the Aranya Low-Cost Housing design in 1995, the Prime Minister's National Award for Excellence in Urban Planning and Design in India in 2000, the Global Award for Lifetime Achievement in the Sustainable Architecture category, Institut Français d'Architecture Paris in 2007, France's highest honour for the arts, Officer of the Order of Arts and Letters in 2011, as well as the 2018 Pritzker Architecture Prize for his outstanding contributions as an architect, urban planner, teacher, for his example of unwavering integrity and tireless performance. For India and beyond, make it Indian first to receive the honour. He was later awarded the Padma Bhushan award in 2020 (Mirror, 2023). Regarding recognitions, he is a member of several international architectural institutes, including the Royal Institute of British Architects, the Indian Institute of Architects, and Institut Français d'Architecture. He is also an honorary member of the American Institute of Architects.

Looking to his achievements, it can be seen that he already gave a lot of important contributions in architecture, especially for his home country, India. From the awards list above, Doshi got an honour for his outstanding works ranging from various aspects: sustainability, low-cost housing, urban planning and design, education, as well as art. It indicates how he also consider about the social, economic, and environment aspect (sustainability) besides the aesthetical aspect (art). Doshi’s works in India led him to become an architect who contributed to the development of contemporary vernacular architecture in India (Lalueta, 2018) (Kudryashova et al., 2020) (Zeitoun, 2023). This makes an intrigued to learn more about how Doshi grows and develops his design thinking that influences his outstanding works to become contemporary and vernacular.

2. Method

This paper aims to get a better understanding of Doshi’s design thinking that leads him to make a contribution to the development of contemporary vernacular architecture in India. It will start with defining what contemporary and vernacular means. The contemporary especially in the realm of art has the meaning of the created artworks that encompasses a wide range of styles, mediums, and approaches that reflect the current artistic practices and trends (Haddad et al., 2014). Meanwhile, vernacular in architecture means the local, traditional, or indigenous style of building and construction that reflects the cultural, environmental, and historical context of a specific region or community (Glassie, 2000). Therefore, to understand the contemporary spirit of Doshi, this paper will explore through his biography to find out how the age he passed ultimately affected his design thinking. Meanwhile, the vernacular spirit will be explored through the study of the context in which he lives and makes a lot of excellent works —India—, which ultimately formulates a prominent idea. The data was collected from literature that explained the biography and Doshi’s works in India. In addition, the analysis process is supported by Antoniades design theory (1992) that can be a tool to
reveal the intuitive aspects of architects (Antoniades, 1992) (Ekomadyo, 2010). These intuitive aspects can also reflect the design thinking of Doshi.

Antoniades (1992) mentioned architect’s creativity could come from two channels: tangible and intangible. He coined intangible channel is related to the process of creativity, such as fantasy and imagination, metaphor, transformation, vague idea, poetic and literature, as well as multicultural exotica (Antoniades, 1992). Meanwhile, tangible channel is related to the history interpretation, mimesis and literal interpretation, geometry, material focus, and dialog with nature (Antoniades, 1992). Hence, the discussion will also explore the tangible and intangible aspects to find out the value of Doshi’s works, which have earned him a lot of awards and recognition.

3. Discussion

3.1 Biography of Balkrishna Doshi

Balkrishna Doshi was born to a Gujarati Hindu Rajput family in Pune, a prominent Hindu family that has been involved in the furniture industry for two generations. His grandfather owned a furniture repair shop, and Doshi initially believed he would also take up the profession. His everyday life in his grandfather’s furniture workshop made him feel structure and space. Doshi’s childhood experienced many very unusual things influenced by the character and Indian culture that followed him during his growing up to adulthood. Doshi grew up in a large family with a new-born baby and an eighty-year-old grandfather, many cousins, and relatives all living together, and sometimes there were more than thirty people in the house. When younger family members marry, they must build an extra room for the new family member. So, like a family, the house also develops and modifies. According to Doshi, it is a very homogeneous and balanced coexistence, where tolerance and acceptance come naturally, so he believes that buildings are important instruments for celebrating life.

Doshi is also subjected to many rituals as in any traditional Indian house. They go to temples, go on pilgrimages, learn about birth and death, about religion and mysticism as part of the cycle of life; they are given the freedom to start placing gods and goddesses, myths, legends, fairy tales, and folk tales told by the elders in space. Imagination transcends the mundane realm of structured reality. Since childhood, while going about daily activities such as playing in the streets, walking to the market, meeting people, Doshi realized that life means getting together and having fun. Doshi then finds his initial impression of architecture as a living and breathing space.

Education and the beginning of his career noticing Doshi's talent for art and understanding of proportion at a young age, a school teacher introduced him to architecture. Then, Doshi began his architectural studies in 1947, the year India became independent, at Sir J.J. School of Architecture Bombay (Mumbai), one of India's leading and oldest architectural institutions. Doshi's ambition and initiative guided many crucial moments in his life. He started by taking a ship from India to London in 1951, dreaming of joining the Royal Institute of British Architects. In London, he had the opportunity to meet the architect Le Corbusier. Despite his inability to speak French, he worked under Le Corbusier in his Paris office as an intern. Doshi didn’t know much about Le Corbusier, only learning about some of Le Corbusier's projects in India from a friend, but he applied for the job anyway and got it (Figure 2). Doshi was in Paris for four years, from 1950 to 1954, and was not paid for the first eight months. Le Corbusier, who didn't like to speak English, and Doshi, who couldn't speak French, forced them to communicate by hand and foot (Michaelsen, 2020). Doshi then studied Le Corbusier's
architectural philosophy nonverbally.

Doshi returned to India in 1954 to oversee Le Corbusier projects in Chandigarh and Ahmedabad, which included The High Court (1952-1956), Mill Owner's Association Building (1951-1955), Villa Sarabhai (1951-1955), and Villa Shodhan (1951-1956). Doshi then finally decided to settle in Ahmedabad. Encouraged by the patronage he saw in the city, Doshi decided that Ahmedabad provided a solid reason to leave Corbusier's office. In 1956, Doshi hired two architects and founded his practice, Vāstu Shilpā (in Sanskrit, Vāstu describes the environment around us; Shilpā means to design), which has since been renamed Vāstu Shilpā Consultants and has grown to employ five partners and sixty employees and has completed more than 100 projects since its inception. Lessons from previous architects influence every work produced with his architectural bureau. With a modernist architectural vocabulary and particular emphasis on the form of elements and building materials. He forges a vision and mission in each of his works with a deep respect for life, eastern culture, and the forces of nature. To create an architecture of a personal nature, mixed with memories from his past.

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According to Doshi’s biography above, it shows how the sense of art, proportion, space, and structure have been felt by Doshi since his childhood. With those potentials and the memory of his social life, Doshi understands enough about the environment and the culture of India and how to respond to it in architecture. Then, Doshi’s experience working with Le Corbusier added to his design vocabulary, which influences his work and inspires him to integrate it with the personal nature (context) of India. That shows where his spirit of contemporary has come, which reflects his appreciation to the multicultural exotica, which is an intangible aspect. Aside from that, Doshi gets a lot of literature—other intangible aspects—from his life journey as an architect, which is manifested through the design vocabulary he has. In the next section, it will be further discussed how Doshi formulated his ideas into prominent ones, which made his works contextually excellent. Then the discussion will be continued in the section that shows the manifestation of his ideas.

3.2 Prominent Ideas Formulation of Balkrishna Doshi

It is important to understand the Indian context that influenced the design thinking of Doshi to have a vernacular spirit. As a developing country, even decades after independence, the economy in India is faced with shortages of food, clothing, housing, educational and health facilities. At present, India is also experiencing extreme development with an unbalanced state of development. Some areas have advanced technology, including atomic power plants to jet air transport, but in other parts, there are oxcarts. Some cities became overcrowded with industrial concentrations, and small towns and villages became uninhabited due to a lack of necessities and job opportunities. Moreover, in the life of traditional Indian society, all are part of the community. So those buildings are not built separately, but in groups that lead to the environment, merging
facilities, space, and culture into one unified whole. The form of the building has a centuries-old tradition, which binds not only the community from one generation but also the next generation in a building. It isn't easy to see this directly through the floor plan, but judging by the activities and functions carried out within the building, one can feel a strong sense of identity. In India, communities share everything, be it economic activities or festivals.

According to Correa (1983) and Doshi (1985), India can still not produce the resources and energy that can be used to construct and operate buildings that are blind imitations of buildings in the West. Suppose these socio-cultural traditions and socio-economic issues are not understood. In that case, the arrangement of buildings, roads, spaces, and forms cannot be a good and comfortable building for the community. Therefore, it is essential to talk about the physical environment in cultural terms (intangible aspects) rather than just facilities, space, technology, or the economy (tangible aspects). Visions and objectives of Balkrishna Doshi (1954) expressed his vision to create sustainable, liveable, and low-cost communities for Indian society. Doshi sees socio-economic and socio-cultural issues in India as opportunities for developing small and medium-sized cities as integrated communities that provide opportunities for healthy living. It took him half a century to communicate these ideas to all parts of India, build and implement to advance them, and train generations to implement them. Doshi strives to show that all good architecture and urban planning is not necessarily devoid of purpose and structure but must take climate, site, engineering, and craft into account, along with a deep understanding and appreciation of the context in a broad sense. Through poetic and philosophical foundations, projects must go beyond function to connect with the human spirit. According to Doshi, the focus of architecture should be on the life it embodies and not on the architecture itself (Doshi, 1985).

Balkrishna Doshi sees the synthesis of modernism with local Indian traditions—such as characters, customs, religions, and ubiquitous mythology—and European and American avant-garde ideas merging in harmony with nature—such as sun and rain, the drama of light and shadows—and sustainability creates the concept of contemporary vernacular architecture as he applies to his every work in India. Aside from that, Doshi always identifies problems that will impact a community, which means always putting the community first. It also focuses on practical and inexpensive sustainability. This is where Indian society is too poor for air conditioning and too poor to build insulation.

Doshi recognizes one of the foundations of Indian architecture and philosophy that Indian society will squander as little as possible and try to use materials differently. Those who live in the community are also associated with uncertainties. Society continues to strive to innovate with whatever is at hand and use it in the reality of space and time that has been given to us. Looking at the climate in India, jharokha, a stone window projecting from the wall face of a building, was developed because of privacy, shade, and ventilation. People will always think about how many additional ways can be used for the same product. This distinctive lifestyle has been passed down to the community from generation to generation. This acceptance, without agitation, is part of Indian culture. Doshi coined that in architecture, we often have to accept certain limitations or possibilities. This allows people to be flexible, add or subtract, to see things holistically in a design approach, where anything unexpected can finally be accommodated, with global influences on the design that need to be considered.

According to Doshi (1985), as an architect with a limited field of control cannot directly provide for improving economic conditions, economic growth is possible and progressive. On the other hand, an architect can plan novelties to offer healthy accommodations to the individual and the community. It shows Doshi encourages an architect to define, at least approximate, the scale of various operations for individuals, families, and communities in villages, towns, and cities. Their way of life relates to the 24-hour cycle and their weekly, monthly, and yearly needs. Those independent individuals are created, forming separate communities with options for various activities such as work, rest, reflection, and creativity. Henceforth, all elements in the building are considered multifunctional. That's what grows with Indian culture, and that's how the character of Indian society is built. Facilities not only develop but also form the basis of balanced community life. Therefore, all environmental elements must be designed to suit more than one situation. People's quality of life will naturally develop over time, as long as the whole process is nurtured with this belief. This should be the basis for planning or architecture. According to Doshi (1985), society must look for cultural 'catalysts' that become institutions that give meaning to life. In the practice of architectural planning and expression, this is what we must seek and build. A rich and flexible design will be created and modified according to the community’s flow of life and daily life to create a happy society.
At the same time, Doshi also gives an artistic side to his designs. While Doshi’s work does not feature complex geometries or sophisticated technology and the structures are not fashionable or up-to-date, Doshi does not see these as inferior or low-tech. The simplicity in his work gives identity to the community, which makes the residents feel happy with their home. This is Doshi’s fundamental lesson in ownership and identity. Doshi listens and connects across cultures, classes, theories, paradigms, and disciplines. Interestingly, Doshi’s transformation does not deny the foreign influence while working outside India. Instead, he incorporates it as a new world view in designing local lifestyles for people who use materials and live by local traditions. That leads him to create a contemporary vernacular in India.

3.3 The Selected of Architectural Works of Balkrishna Doshi
This section will show the implementation of Doshi’s contemporary vernacular ideas into his works (Hill, 2018) (Metcalf, 2011). This section reflects the design characteristics of Doshi.

3.3.1 Institute of Indology (1962)

The Institute of Indology in Ahmedabad is one of Doshi’s first public buildings since starting his career as an architect outside Le Corbusier’s office. The building was designed to collect, preserve, and ancient document manuscripts of the Jain scriptures and a place for postgraduate teaching and research (Figure 4). The design of the building is inspired by traditional architectural characteristics such as the high plinth and full-sized veranda found at Upashraya, a type of monastery for Jain monks (Figure 5). Doshi reinterprets traditional wood architecture in sleek precast concrete elements. The two-story reinforced concrete frame structure also includes a well-lit basement floor where ancient manuscripts are stored, a ground floor for day-to-day administrative work, an upper floor with conference rooms, and a research area with a circular balcony.

Energy efficiency and the need for a well-lit basement with temperature and humidity control for manuscript preservation are integral aspects of the building’s design (Figure 6). The open basement is surrounded by water and trees, and the protruding, glare-reducing verandas on the first floor are all designed to help keep the
building cool. Its ship-like shape was inspired by the need for natural light and adequate ventilation for scholars working in dungeons.

3.3.2 Centre for Environmental Planning and Technology (CEPT) (1966)

Center for Environmental Planning and Technology (CEPT) grew from an architecture school (which is now a faculty), is the starting place for a multidisciplinary institution founded on the belief that interdisciplinary interactions foster education. This is projected in the design of the campus building circulation, which can be seen for the pictures above (Figure 7 to 8). The entry points at the four corners of the campus encourage students and faculty to cross through the central campus courtyard and familiarize themselves with various institutional activities.

This design approach aligns with CEPT’s underlying philosophy of ‘doorless education’, conceptualizing the campus as a free-flowing space without compartmentalization or separation and encouraging interaction between students and faculty (Figure 9). This campus design also shows the idea of an ideal institution; namely, the teaching and learning process can occur anywhere and anytime, supported by an unfettered exchange of ideas between individuals.

The primary school building is designed along a north-south axis. Each studio receives sufficient northern light
and southerly winds that maximize airflow through the building while minimizing the harsh impact of the sun (Figure 10). The simple structural system, with load-bearing brick walls and concrete floors and beams, forms an extendable and easy-to-maintain winding system that houses a multi-purpose studio and teaching space. The main staircase on campus, which functions as a symbolic gateway to the building, is also designed to encourage spontaneous dialogue between campus users (Figure 11). These vertical and horizontal movement elements with variable dimensions are full of light and offer a variety of environmental views.

3.3.3 Life Insurance Corporation Housing (1973)

LIC Housing is a housing scheme for various company employees in Ahmedabad city (Figure 12). Doshi designed these residential units to break down economic barriers and evoke a ‘feel’ of ownership for every occupant. From managers to service employees, the employees who live there are integrated into each block. The smallest residential unit used for service employees is placed symbolically above all other units to encourage various groups to blend in and overcome the stigma associated with social hierarchies. In this design, Doshi developed a new typology that allows every resident to participate in the participatory process of building a house, taking into account their changing needs, available resources, and income levels.

In designing this housing, we learn a critical thing about the diversity of the Indian community, namely a space transformation event. A space that allows him to adapt to all the nuances of life, ensuring social interaction and making room for gradual growth. This phenomenal ‘time’ dimension is handled using space design and planning. Each user can modify the space internally without changing the original shape of the building (Figure 13). Over time, residents have accommodated their needs by adding overhangs, roofs, windows, and specific spaces that contribute to their sense of belonging and dignity.

3.3.4 Indian Institute of Management Bangalore (IIM) (1977)
Indian Institute of Management Bangalore is a leading academic institution spread over 60 hectares in Bangalore, also known as 'The City of Gardens'. The building is designed and arranged as a series of courtyards in harmony with the city's comfortable tropical climate and lush greenery and gardens (Figure 14). Inspired by the traditional architecture of the historical city of Fatehpur Sikri and the Meenakshi Madurai Temple, Doshi designed a pathway through the campus to serve as a link between elements of the larger complex (Figure 15). Courtyards are designed as extensive gardens, and corridors on campus are designed as study extensions to allow spontaneous communication between students and faculty. The spatial configuration creates a spatial and physical experience that encourages participation among campus users.

Doshi wanted IIM Bangalore to be an analogy of a traditional Indian city, complete with streets, squares, stairs, ledges, balconies, galleries, and overhangs (Figure 16). Doshi called the complex an "education bazaar". Doshi wanted to develop a system where the buildings at IIM Bangalore seemed to 'disappear' and the spaces between them dominated the experience in the area. In designing, Doshi is more concerned with 'taste', a subtle understanding of a space that makes the room unforgettable. This is expected to expand the association and enrich the imagination of the space users.

3.3.5 **Aranya Low-Cost Housing (1989)**

Aranya Low-Cost Housing is aimed primarily at groups in India known as 'Economically Weaker Sections' (EWS) (Figure 17). This follows the government's goal in the area, namely repairing and upgrading slum areas. The challenge in designing this housing is finding a new model that can support economic growth and empowerment and improve the population's living standard (Figure 18). Although it is intended for groups of economically weak people, this housing also provides a place to live for Middle Income Groups (MIG).
Figure 17. View of the example house with double stairs, terrace, and balcony at different heights to serve social interaction spaces

Source: Vāstu Shilpā Consultants, 2018

One of Aranya's planning goals is to create a balanced community of various socio-economic groups. In this housing design, the architect intends to combine all economic groups in one location so that there is the interaction between the two groups to eliminate segregation (Figure 19). The concept of the Aranya housing environment also pays attention to aspects of the habits of the people in the slums, who like to interact among them and create a kind of environment that is friendly and supports each other in social and economic terms. The housing concept was a success; after twenty years, the residents have maximized the use of their space. People who used to be economically weak are now part of the middle class and generate income from where they live and from their professions.

4. Conclusion

From the findings above, it can be concluded that an understanding and appreciation of deep traditions in Indian character and architecture that Balkrishna Doshi understood from childhood, regardless of local prefabrication and crafts, Doshi could develop a vocabulary that is in harmony with the history, culture, and local traditions. These resulted in a vernacular spirit in each of his works. Aside from that, Doshi does not deny the foreign influence while working outside India. Instead, he incorporates it as a new world view in designing local lifestyles, which makes his work contemporary. Therefore, the vernacular and contemporary approach became a principle of his design thinking in solving the problems. That leads him to contribute to the development of a contemporary vernacular in India. Doshi constantly strives to develop its architectural expression and shape through forces such as climate, culture, materials, technology, and aspirations, thereby creating architecture. The contemporary vernacular will become the identity of society itself.

Doshi wanted the buildings he designed, above all, to be their habitat, their weather and vegetation, and the rhythm of people's lives. With a deep sense of responsibility and a desire to contribute to his country through high-quality authentic architecture, he has created projects for public administration and utilities, including educational and cultural institutions and economics. As praised by the jury, Doshi is able to integrate intangible and tangible aspects in harmony among all components. Furthermore, he was committed from the start to sustainability, not necessarily because of any inkling of the environment, but because being sustainable means being local. This sustainable thought of Doshi has the potential to be developed into an intriguing topic for future discussion.

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