

TRANSFORMING TRADITIONAL TRANSITIONAL ELEMENTS OF WADA: A CASE STUDY

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ABSTRACT

Architecture is an unusual blend of persistence and flux. Architecture is an incorporation of element since past or invented or reinvented recently. The character and style of architecture vary with respect to time and place, but elements constitute the basic identifiable parts of built environment. This study investigates how traditional elements have been integrated in contemporary architecture. The paper examines the concepts behind the continuity of characteristic elements from traditional to contemporary architecture. For that literature review of traditional architecture, visual ethnography and case study method have been employed. This paper examines the main characteristic transitional elements of the *Wada*, a traditional residential typology of Maharashtra, and investigates their integration into the design of contemporary houses in Pune. A table is being provided to evaluate the utilization of design concepts of the traditional spatial elements in Wada and Contemporary Case. The three traditional transitional elements: courtyard, threshold as an entrance, windows have been empirically checked in the contemporary context of Pune in India by employing qualitative intrinsic case study. Attempt has been made to understand the intangibility of tangible elements. It has been found that using traditional elements does not mean repeating it the same way, but applying character considering today's contexts.

KEYWORDS: Traditional Architecture, Contemporary Architecture, Traditional Elements, Integration, Characteristics.

INTRODUCTION

In traditional domestic architecture of India various elements of space such as courtyard, threshold, and window have become the significant key elements as transitional element. Especially for Critical Regionalist, elements are the toolkits to manifest traditional architecture specific to the region. Traditional elements such as courtyard, entrance were the places which provide social interaction and where families gathered socially as well as culturally. Nowadays, changes in lifestyle have led people to live in isolation, resulting in a lack of togetherness that once existed in traditional residential elements. The socio-cultural life that was an integral part of traditional houses is gradually disappearing from most contemporary residences. There are the challenges to reconcile these elements with today's context. Attempt has been made in this paper to revive traditional elements which provide characteristic features in Contemporary architecture. To demonstrate this example selected from a city 'Pune' of Maharashtra in India. Wada the residential Maharashtra typology was flourished during the Pashwa Period in Pune. The study highlights characteristics elements of design handed down from past to present and the reasons for the adoption of traditional Architectural elements.

Tradition is defined as, 'line of continuity and development', as it is not static but developmental (Joseph, 2013). Continuity recommends a set of attributes that are transmitted whereas developments bring in the idea of change and innovation. According to Pandya (2005) Tradition is a progressive process of constant updating that subtly combines the old with new. In this regard, the study examines the transformation of spatial elements through the intrinsic case study.

Subsequently, to integrate elements of Wada, first of all it is needed to understand its concept and characteristic in traditional architecture, and its use in contemporary architecture meeting to the current technology, need.

LITERATURE REVIEW: KEY CHARACTERISTIC ELEMENTS OF WADA

The traditional residence 'Wada' belonged to ruling classes besides commoners. Single or several families were stayed in Wada. Courtyard was the essential element for smaller as well as large traditional Wada. However certain variations in scale and economic status of Wada, yet all exhibited the significant characteristics elements as below.

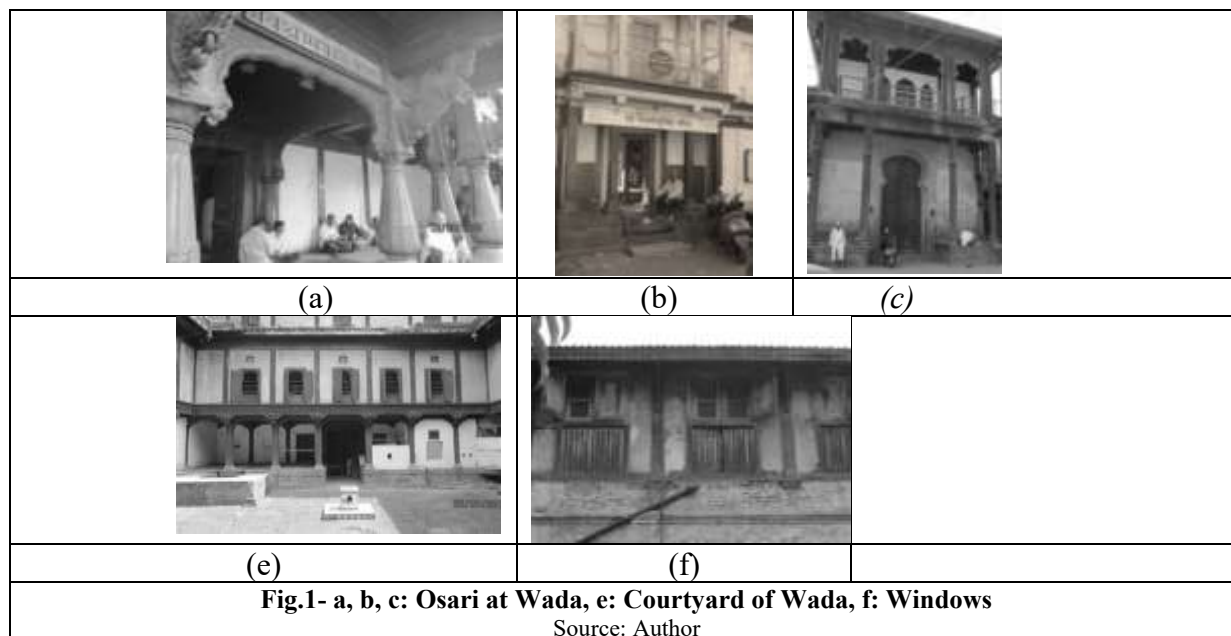
2.1 Threshold: Osari

Wada often had platforms at the entrance from the street like *otla* in *Pol House* (Cooper and Dawson, 1998). It was phrased as 'Osari' locally. It was a verandah like space, flanked by two platforms on each side of door. It has pillars supporting the upper floor. In absence of *osari*, the two platforms at seat height with approximately seat dimensions were present on either side of the doorway in traditional Cases as shown in Fig 1c.

Connecting a house to street has been a charming part of design from time immemorial in India (Jain, 2002). Connectivity refers to the directness of link. *Osari*, the threshold during Peshwa period, was directly abutting the street in terms of spatial organization, which connects the house to the street, passer-by and neighbours. It provides physical and visual link between public and private space.

Unwin (2009) put forth the concept of place wherein expressed that people make places, to perform activities, at the individual level, at the social and cultural level, and between various subcultures within a society. Osari is the place not only used for arrival or departure but also Sitting, Gathering, Gossiping The two platforms on each side of the door provide communication platform and turn it to interactive place. Strong external spatial connectivity was achieved through the Osari. It provides opportunity for conversation helps in binding the residents of the Wada to the neighborhood socially (Burte 2010).

Jain (2002) stated that entrance expressed the most important transitional relationship between two distinct realms and referred it as ‘in between space which has its roots in the abstract and metaphysical world. Most significantly it connects ‘outside’ and ‘inside’. It allows transition amongst public and private; inside and outside; external and internal; open and enclosed spaces.



2.2 Courtyard: Chowk

‘Wada’ generically used to denote, ‘a courtyard house form’ indigenous to Maharashtra (Gupte, 2013). Chowk is an open to sky space inside the house or built form. It is a central void space. It invites rain inside the house. Generally, courtyard is two–three steps lower than interior space in order to prevent water seepage. Essawy (2017) researched that, the presence of both darkness and light in an architectural space adds a quality of depth to the space. Kutlu et.al. (2000) depicted that courtyard act as connector or separator to light and its surface articulation helps to add quality of light in design. Courtyard offers Light and ventilation, during Peshwa period but the one- or two-storey surrounding enclosure provided shading in courtyard. Due to the four sides heighten surrounding enclosure courtyard resulted into direct light yet softened. It acts as light as well of subdued light quality. It plays the role as filter of Light. Courtyard acted as efficient micro-climate controller in Peshwa period.

As indicated by Prakash and Mahalakshmi (2017) conventional component, courtyard is the breathing space in built form of houses. Courtyard provides natural ventilation. A court yard enhances air circulation through principle of stack effect. After the air passes through the interiors, it heats up and starts rising. Air movement in the courtyard, air in and out, make it as breathing space.

Being at Centre, Courtyard had direct connections to the almost all rooms around it. Courtyard being a void and its visual connectivity to the horizontal and vertical floors facilitates interaction amongst the family members. The central spatial configuration of courtyard connects almost all the enclosed inside rooms to the open outside private space and establishes dialogues between built form and open spaces. Peshwa society’s concern for indoor outdoor dialogue and a smooth transition between the two was manifested through the courtyards at Raste Wada (Fig. 1e). All the rooms face the courtyard, creating direct relationship between inside and outside. Connectivity in terms of physical and Visual was the high point of design.

2.3 Window: Khidaki

Windows, Jharokas jails are the important elements have played important role in traditional architecture, in terms of view, air and visual link (Jain, 2002). These elements connect the inside and outside, public and private areas.

In Wadas windows were of two kinds, either having two opening panels or four opening panels with two below or two above. (Kumar,n.d). In Wadas windows were narrow but tall, opened from floor level with double leaf shutters. Generally, the shutters were in two parts as lower and upper (Dengle, 1998). This design of window allows different permutations and combinations and controls view, privacy, light and air (Burte,2010). The lower part opened from the floor level and offered view even one was in sitting position of folded leg, on the floor. It allows flow of wind at the floor level. The upper part opened at one’s eye level, allowing view when one was in a standing position. In order to achieve privacy, the

lower part can be closed at day and upper part can be closed at night, letting air inside the house. The design of traditional windows allows cooler air, views even at the floor level, provides flexibility and controls privacy. Windows opening in courtyard not only connects inside and outside but also ground floor and upper floors.

RESEARCH METHOD/ RESEARCH DESIGN

Conceptual Framework developed as implications of Literature Review. On the basis of Theoretical Framework Threshold is conceptualised as 'In Between Space', Interactive Place, Communal Space, Connected space; Courtyard as Central Void Space, Light well, Breathing Space; window as transitional space, Flexibility to air, view (Vantage Point)

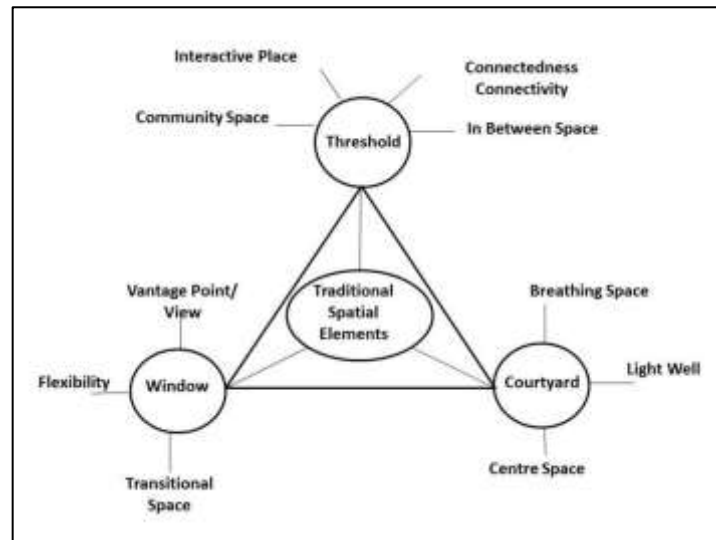


Figure 2: Conceptual Framework of Transitional Elements

Source: Author

Within this conceptual Framework the three traditional and contemporary transitional elements have been analysed longitudinally and cross section ally. In present research, Qualitative visual ethnography with exploratory case study method to inquiry was implemented.

In this research identified the characteristics or concept behind the traditional element. Its use has been empirically checked in case study and comparative analysis done to understand continuity and change.

3.Case Study

The Contemporary house exemplifies the integration of traditional transitional elements integrated directly or indirectly within its design. This case representing the unique case by incorporating courtyard indirectly. This case resembles like other contemporary house, however, there is an interaction amongst the traditional and modern structures. It is outlined like Wada as this family had before lived in Wada, of Pune. This house is constructed in 2006 and designed by architect Girish Doshi.



Figure3: Architectural Drawings and Spatial Elements of Contemporary House

Source, Curtsey: Ar. Doshi G.

3.1 Osari

In this case threshold has been manifested in the form of osari. This house has two separate entrances, set in the compound wall, for vehicular and pedestrian purpose. The pedestrian entrance of compound transformed into semi-covered verandah like space 'osari. In this house concept of osari adopted but transformed the appearance. After crossing osari, house is entered via veranda through steps.

Osari, threshold has been set in compound wall. The two sitting platforms act as community space. People from neighbourhood often sit there. In this house the threshold set in compound wall, directly abutting the street not only connects to the outside but also the built form, allowing front margin has been attached to outside world through the threshold. Here, the threshold in terms of plinth and steps as an entity connecting to the outside world. The transparent compound wall with steel bar provides two-way communications between inside and outside. Physical and visual link has been established in this house through the threshold. The threshold is being provided feeling to the user as close to the society attributing 'connectedness'

Gradual ascending of floor plane and steps formalizes the informal space for gathering, in this house. The two formal sitting platforms are also provided there which offers view to the compound and street and acts as private interactive space



(a) (b)
Figure 4 : (a) Threshold of contemporary house (b) Window at contemporary house

3.2 Window: Khidaki

The design of the bedroom windows has adopted traditional details. It has full height wooden windows extended from floor to height with double leaf shutters in two parts. The upper part doesn't have grill like contemporary windows. The lower part is double-shuttered wherein the outer shutter is solid wood and the inner shutters have wooden louvers and a mosquito mesh. Requirement of curtain is not necessary due to this design. Window at contemporary house connects horizontal and Vertical Floors. Thus, the principle of letting cooler air even at the floor level and connecting ground and upper floors has been continued in contemporary house.

3.3 Courtyard: Chowk

Courtyard as a spatial element has not been directly incorporated but the essence of courtyard has been preserved in this house, although the identity of the courtyard has been altered. Living room here is courtyard like space. The climatic function of the courtyard that is providing light and ventilation has been incorporated in this case.

The central position of hall physically directly connects to the dining and entrance; external verandah and staircase. It visually connects to the several bed rooms on first floor, and establish link between ground floor and first floor

In this case, diffused light let in by the glass roof provided at top of the hall, which recalls the daylight of traditional courtyard of Wada.

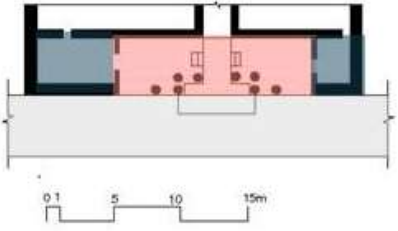
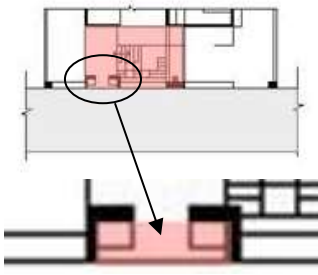
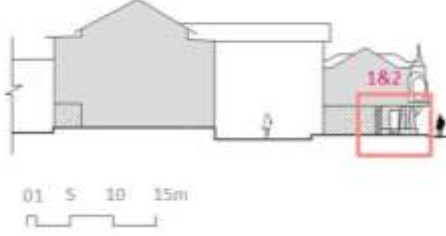
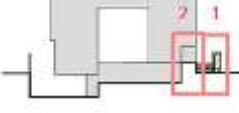
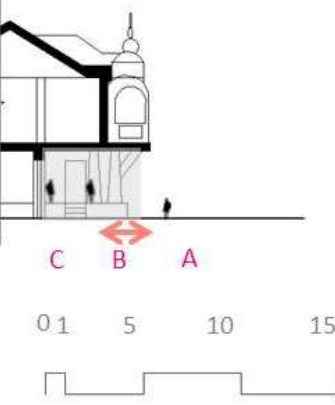
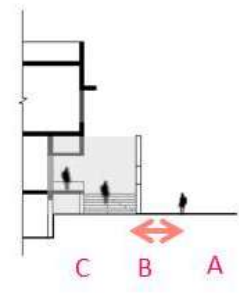
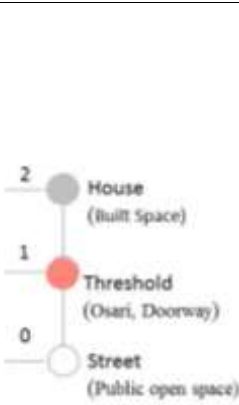
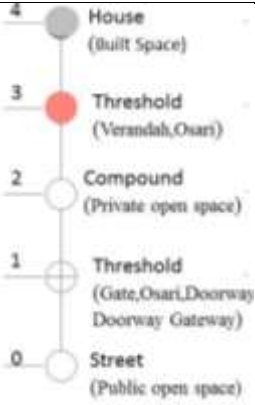
The house is air cooled through ventilation shaft. The empty shafts are ascent well over the rooftop and have openings in their sides to catch passing breeze. The principle of stack effect stimulates in this house. Glass provided at roof top traps heat while letting light move in and out and makes the air more sweltering than ordinary. The hot air rises through two ventilating towers beside the glass rooftop and activates extractor fans which throw it out. Cool air from the rooms around it is pulled into the chamber and thrown out by the extractors. Thus, it acts as breathing space.

4. Findings And Discussions: Integration in Traditional Architecture

Case studies provided sound background to compare and understand the transformation of attributes and articulation of spatial elements during Traditional and Contemporary period. This section will demonstrate transformations of elements over a period of time through comparative analysis.

4.1 Threshold: Osari

Table 1: Characteristics of Threshold		
Traditional Case	Contemporary Case	Concept/Characteristic

		Spatial Organization
		In between Space 1-Public and Private 2-Inside and outside
		Connectedness Visual A-Street B-Threshold C-Built form
		Connectedness Physical Space syntax
		Community Space, Interactive Place

As threshold is in-between space; being exposed and near to street; set in territorial building wall, offered social interaction at public level during the Peshwa period. Threshold set in the compound wall pertained the social characteristics of traditional threshold, though the contemporary house, being within plot which detaches house from street.

‘Connectedness’ the character of threshold existed in Peshwa period has been continued in this contemporary case, even though marginal distances of municipal bylaws separating the house from street. This case provides strong connectivity. The position or distance of threshold from the street gives the feeling to the user as connectedness or isolation with society or public world. The subtle experience of the quality of space as connectedness, though the scale of threshold changes

from traditional to contemporary. The appearance of threshold is changing. According to Miess (1994) there are two types of composition of object as articulation and continuity or fusion. In building, the manner in which the joints between elements are highlighted, gives rise to differing aesthetic characteristics. Each element was seen or exposed in façade design of traditional threshold. The composition method as articulation reflected in Traditional Case in contrast Continuity has been present in Contemporary case. Generally, in Wada, threshold has been defining the territory of building. Traditional case is evidence for the orientation of built space towards street though threshold. In this Contemporary case, threshold has been orientated towards street like Traditional

Peshwa Period

In contemporary architecture due to the impact of municipal bylaws hierarchy of thresholds have been seen and placed at two levels, site level and building level. Thresholds at site level presents 'In-between space' the concept theorized by Jain, 2002 among public space and private space whereas thresholds at building level, Signifies transition from outside to inside or vice versa. And provide movement from the materialistic to spiritual world. Avoid abrupt change of light and evoke feeling of traditional.

Unwin (2009) throws light on concept of place. According to him, it is the place that expresses our relationship with People, environment and God. In regards to this Osari as threshold during Peshwa Period manages relationship at communal level by performing activities like sitting, gathering, gossiping. It makes threshold as place of interaction. This aspect of utility of external verandah during the Peshwa period has been reflected at threshold set at site level in this contemporary case. In this house, the social aspect of Osari has been adopted by organizing the two platforms flanking entrance door. Two platforms provide sitting platform and having street interaction as collective place to gather and gossiping though the scale of platforms is changing from traditional to Contemporary. It has become the communal interactive space. Case has been strongly depicted as the relation between society and threshold, making it as place, even in the changing lifestyle where people led in isolation and lack of togetherness existed. Thus, though threshold provides communication at communal or private; at small scale or larger but it facilities feel of interaction amongst people by attributing sense of communication.

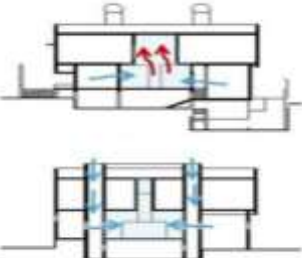
4.2 Courtyard

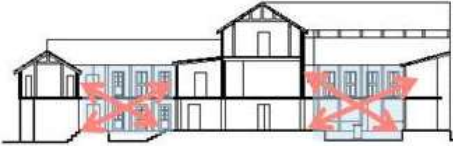
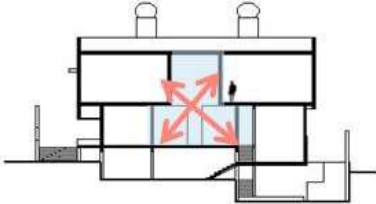
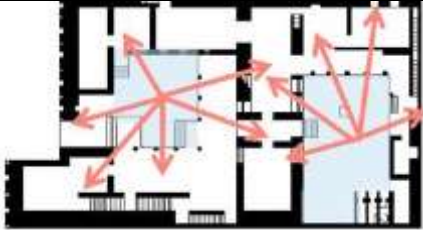
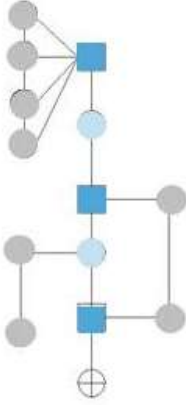
The four sides heighten surrounding enclosure of traditional courtyard offered shading in courtyard and resulted into direct yet softened light. This subdued light quality has been attributed in contemporary cases due to the glass roof provided at top of the courtyard like hall and acting as light well. According to Blaster (1985) share of day and night, sun and moon, heat and cold, and rain is received through the courtyard space. Open to sky courtyard ensures the ample light without sacrificing privacy during Peshwa period. In contemporary case the identity of courtyard as open to sky, void space has been altered as Atrium. Courtyard like hall does not allow the rain like traditional courtyard but experience of rain can be achieved as it has three side enclosure and one side exposed to side Margins. In this way the style of four side enclosure courtyard is changed in the contemporary case yet it acts as light well.

In traditional case dialogue between inside and outside happens thorough the semi-open space, known as Sopa. Court was surrounded by semi open space (Sopa) leading to rooms. This spatial organization of courtyard has been changed in Contemporary case. In contemporary case Courtyard like hall directly connected to the rooms without sopa.

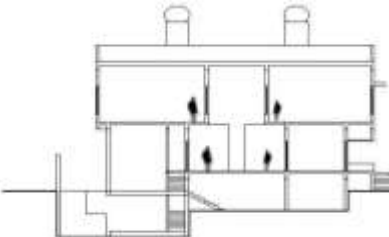
During Peshwa period courtyard was functioning as a ventilation shaft. Air movement occurred in the courtyard due to the stack effect. The principle of stack effect has been observed in l contemporary case. Courtyard like space manifested at contemporary case, is air cooled, through the ventilation shaft. These empty shafts are climb well over the roof top, and have openings in their sides to catch passing breeze. Cool air is pulled and hot air is thrown out by the extractors besides glass roof top. Thus, it acts as breathing space.

During Peshwa period courtyard as spatial element has shown the quality of connectedness between indoor and private outdoor spaces by offering physical and visual link to all or almost all enclosed spaces surrounding it. It this cases courtyard connects to several enclosed almost all room spaces, not to all.

Table 2: Characteristics of Courtyard		
Traditional Case	Contemporary Case	Concept /Characteristic
		Light well And Breathing Space

		Central space
		Connectedness, Physical and Visual Link
		Space syntax ⊕ Threshold ● Courtyard ■ Sopa ● Room

4.3: Window

Table 3: Characteristic of Windows		
Traditional Case	Contemporary Case	Concept /Characteristic
 Source: Author		Transitional Space
		Vantage Point/ Visual Link

 Source: Author	 Source, Curtsey: Ar. Doshi G.	Flexibility
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The concept of view even from the floor as ‘Vantage Point’ has been continued from traditional to contemporary case. Here the window is designed in vertical proportion as traditional window. The style of window in terms of form is also continued.

In Wadas windows were overlooking to the courtyard (Kanhare, 2013). Similarly in this contemporary case windows of bed rooms have been overlooking to the courtyard like place.

Flexibility to control view, light and air through the design of shutters in two parts has been adopted in this case like traditional Peshwa Case.

In Wada window becomes the transitional space between inside and outside, either public outdoor space or Private outdoor space as chowk. Most of the windows of room were orientated towards Courtyard in Wada and furthermore connect inside private space and Indoor outside semi-public Space (Courtyard). In contemporary case windows have been positioned between private bed room and public living room resembling Courtyard.

In this case window has been updated by proving louvered shutter at lower side Total opening panels as six panels.

5. CONCLUSION

The Contemporary case has illustrated that Architecture elements are a door between generations; it interconnects the past and the present. It is also the vehicle to connect society, culture, environment and functions in architecture. Its incorporation adds quality to design

Contemporary architecture has been incorporated traditional elements by adopting concepts as per today’s need. Integrating traditional architecture into Today's architecture is not mere copying the element as it is but trying to apply the concepts, the characteristic with respect to change in time and context. It is learning from the past rather than imitation of the past. It’s not always necessary to repeat the style or appearance associated with history. Understanding characteristics, concepts behind that element leads to abstracting the element and carry forwarding tradition.

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REFERENCES

1. Blaser, W. (1985). Atrium: Five Thousand Years of Open Courtyards. New York: Wepf & Co
2. Burte,H. (2010, June 12), old-elements, new house, New Delhi. Retrieved from <http://www.business-standard.com/article/beyond-business/old-elements-new-house11006100031.html>.
3. Cooper, I. and Dawson, B. (1998). Traditional buildings of India. New York :Thames and Hudson
4. Dengle, N. (1998). The Introvert and Extrovert Aspects of the Marathi House, House and Home in Maharashtra, USA: Oxford University Press. 50-69
5. Diddee, J. and Gupta S.(2000). Pune Queen of the Deccan. Pune India: Elephant Design Pvt.Ltd.
6. Essawy, S. (2017). The Timelessness Quality In Architecture, 6(02).
7. Gupte,R.R. (2013).The courtyard Wada of Maharashtra. New Delhi,India: Council of architecture
8. Jain, K.(2002). Thematic Space in Indian Architecture. New Delhi,India: India research press
9. Joseph ,K.W. (2013). Transformation of kikuyu traditional architecture,Case study of homesteads in lower Mukurwe-ini, Nyeri, Kenya (Thesis).The Oslo School of Architecture and Design, Series context. Retrieved from [://brage.bibsys.no/xmlui/handle/11250/93067](http://brage.bibsys.no/xmlui/handle/11250/93067)

10. Kanhere, G. K. (2013). Temples, Wadas and Institutions of Pune : A legacy and Symbolism in architecture. Pune: BNCA.
11. Kumar S., (n.d), The Architecture of Wadas of Maharashtra, Retrived from <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a828-the-architecture-of-wadas-of-maharashtra/>
12. Kutlu, G., Submitted, D., Fulfillment, P., & Major, A. (2000). The Peculiarities of Light as a Quality in Architecture By
13. Meiss, P. V. (1991). Elements of Architecture, from form to place. London: E & FN Spon
14. Pandya, Y. (2005). Concept of space in traditional Indian Architecture. Ahmadabad India: Map in
15. Prakash, A. B. S., & Mahalakshmi, A. P. S. (2017). Traditional breathing spaces in built forms – Review and Comparison of courtyards in Athangudi village, Chettinad and Contemporary Context, International Research Journal of Engineering and Technology (IRJET), 4(11), 361–366.
16. Steil, L. (n.d.). Tradition and Architecture Retrieved from http://www.academia.edu/8043076/Traditional_Architecture
17. Unwin, S. (2009). Analyzing Architecture (3rd Ed.). London and New York: Routledge