

TRADITION AS MAGIC: INVOLVING TRADITION IN THE CREATIVE PROCESS FOR CONTEMPORARY ARCHITECTURE

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ABSTRACT

This paper draws on the relationship between traditional ways of building and vernacular architecture and the creative processes involved in architecture. By tracing the links between creativity and the values it provides towards the development of architectural concepts, relating this to the architect's ability to recognise contemporary issues and problems linked to the built environment, the paper is able to analyse the relevance of traditional building and vernacular architecture in today's architectural pedagogy. In order to do this, concepts of creativity, problem identification and tradition shall be defined within the confines of this paper and how these concepts have been used in the process for creating contemporary built environments which are culturally sensitive to people and place. This process has been supported by case studies wherein traditional building and all that it entails have been used by communities and individual architects alike to produce buildings and places that are appropriate to their cultural context whilst addressing relevant social, economic, environmental and political issues.

CREATIVITY

The emphasis of architectural education remains focused on creativity often defined by the production of original ideas taking the form of iconic buildings that define the modern identity. Schools encourage students to embrace the modern identity and to create built forms that would define what this is. But neither the concept of identity nor the concept of the modern can be so unilaterally defined because these concepts are in fact culturally rooted (Butina Watson and Bentley, 2006). For as many different cultures as there are, there would be as many varying concepts of

identity and modernity (Bourdier, 1989; Lim, 2007; Zetter and Butina Watson, 2006). If identity provides a notion of who we are, then it is definitely rooted to a past, a culture, a heritage (Boas, 1911; Geertz, 1973; Oliver, 2003, 1997a). Likewise, the concept of the modern, of future aspirations and all the meanings these would entail are rooted to a cultural past (Rapoport, 1989; Castells, 1997; Lim, 2006). How does the creative process for developing appropriate built environments deal with this? This paper attempts to shed some light on this discussion.

CREATIVITY, TRADITION AND PROBLEM IDENTIFICATION

First, it must come to terms with defining creativity as a process for developing innovative approaches to problem solving. With this comes the ability to recognise issues and problems that have implications on architecture, places and people. Broadening one's perspective on



Fig-1: Constructing a Gabbra dwelling (Oliver 2003:30). It is the women that are in charge of constructing the dwellings. Lightweight and flexible poles from plant material are woven into a shell to be covered with fabric. The role of men would be to tend to the all-important source of livelihood which are the grazing animals.

the various aspects regarding the built environment is essential in understanding how places can be created appropriately for their cultural context. Surely we can draw an all-inclusive list of almost everything that bears on the built environment but this paper focuses on how tradition offers a means of understanding the past, in order to define the future, and with this the ability to recognise and analyse relevant aspects of a culture which affect the built environment (Lim, 2007).

It is here where vernacular architecture becomes relevant to architectural study because it relates the built environment and traditional settlements with culture.

Vernacular architecture comprises the dwellings and all other buildings of the people. Related to their environmental contexts and available resources, they are customarily owner- or community-built, utilizing traditional technologies. All forms of vernacular architecture are built to meet specific needs, accommodating values, economies and ways of living of the cultures that produce them (Oliver, 1997:ii).

If as architects and designers we are able to intuitively recognise the genius of a traditional settlement, on closer look, it would take the analytical framework of how a traditional settlement took form to understand it thoroughly.

Paul Oliver's definition of vernacular architecture would be a good starting point for developing an analytical framework for the study of traditional settlements because it relates the built form to the people that built and use it, to the environment and available resources including the skills of the people, the local economy, ways of living and the social values particular of a culture. It could take into consideration how religion and belief systems, economy, cultural interaction with other groups, politics, family structures, kinship, gender roles and the ecological environment are essential factors which had bearing on how the place evolved and that its success and apparent beauty lies in how well it has addressed these issues and resolved the problems they



Fig-2: Camels of the Gabbra people of northern Kenya carrying building materials for their dwellings (Oliver 2003:29). The Gabbra people survive in semi-desert conditions and are nomadic pastoralists. The design of their dwellings, its manner of construction and the lightweight materials they use sensitively relate to these conditions. An entire settlement can be transported on camel backs when it becomes necessary to move.



Fig-3: The Badjao settlement of Bangau Bangau in Southeastern Sabah (Sather 1997:175). The Badjao culture is spread out in the seas of southern Philippines, Malaysia, Indonesia and Brunei. The sea is a principal resource for their livelihood hence their permanent dwellings are built with immediate access to it.

encountered.

TRADITION AND RESOLUTION

By using this broad approach for understanding vernacular architecture, that of examining it within its cultural context we are also able to draw lessons on how problems and issues have been resolved. In a traditional settlement dependent on the values of tradition, this is done over time. At times over the course of several generations through a process of handing down and transmitting information through people (Oliver, 1989): It gives relevance to the meaning and value of carrying on with particular traditions and allows for the incremental changes that occur over long periods of time. These characteristics of tradition allow us to understand how past is carried on to the future and how problems are identified and resolved over time with the values of tradition (Bentley, 1999).

FUEL FOR AN ARCHITECT'S CREATIVE PROCESS

In this section we shall consider how traditional building and vernacular architecture can become a premise for an architect's creative process. First it provides an approach towards the understanding of architecture and the built environment which is holistic. An approach which considers: social, economic, environmental and cultural issues and one which does not separate architecture from its cultural context. Architecture and therefore the process of building, the society it benefits, the ecological and environmental context it exists in are carefully analysed for the issues and problems which must be addressed. Even in the production of iconic architecture, the appropriateness of a building is achieved when a comprehensive understanding of people's cultural identity is imbued in the building. The meanings attached to the creation of the building all come hand in hand.

Second, in the process of valuing tradition and with it, traditional building and vernacular architecture, we are able to look backwards in history for solutions to problems which have been tweaked over time and yet open to

change and improvements. It is a case of learning from the past, building upon this knowledge and improving on it and creating relevant change for the future.

Third, traditional building and the vernacular architecture challenges the architect's creativity because the processes involved in understanding the cultural context of buildings and places, allows for the recognition of new problems and contemporary issues such as geographically sensitive global warming issues, religiously defined gender places and building use (Punekar, 2006), economic benefits of traditional building skills and practices, social implications of regeneration projects (Handal, 2006) and many more. The challenge of the architect extends towards creating solutions, which although rooted in the wisdom of tradition, is currently being tweaked and changed to address these contemporary issues (Zetter, 2006).

INSPIRATION FROM TRADITION

In order to clarify the three concepts mentioned above on how traditional building and vernacular architecture can be of value to an architect's creative process this paper shall



Fig-4: Bayu rice terraces and settlement in Northern Luzon, Philippines (Oshima, N). The many rice centred mountain cultures in the Philippines are built and inhabited by different cultural groups which share the common heritage of creating naturally irrigated rice paddies. The surrounding watersheds are essential for the continued sustenance of these people. Although private rice plots may be owned the watershed remains communal property.

analyse case studies from various cultures and regions of the world which engage with these concepts. The case studies may be particular to place and culture but there is a general criteria for which they have been chosen. The second part of this paper analyses case studies which in general consider:

(1) The creative process engaging with tradition, culture and identity

(2) Problem identification: recognizing and addressing contemporary issues relating to architecture and the built environment, and

(3) The values that traditional building and vernacular architecture offer. Common to the case studies are lessons to be learned relating to points 1, 2 and 3. There will be two types of case studies: those involved with

(a) traditional building and the community.
(b) those involving architects working with tradition.

Each of the case studies presented offer valuable lessons for architects which can be applied in the production of contemporary architecture and built environments which deal with tradition whilst fully engaging with the present and looking at the future with healthy reassurance of knowing the past.

(A) TRADITIONAL BUILDING AND COMMUNITY

Kasbah du Toubkal, Morocco

The Kasbah du Toubkal in Morocco is a tourism partnership between European entrepreneurs and the local Berber community of Imlil. The site is located at the foot of Jbel Toubkal and is surrounded with views of the High Atlas Mountains. The Kasbah has been transformed using traditional building methods, from the home of a feudal *Caid* or Lord to a mountain refuge offering visitors comfortable accommodations. From the building process to the tourist services extended, the benefits to the local community have been part of the design and decision making process in the project's reconstruction. Although



Fig-5: Before restoration, the Kasbah was a derelict building on a beautiful site. (Kasbah du Toubkal website)



Fig-6: Working in partnership with European builders and partners, traditional building techniques were reinforced with new building methods such as the use of concrete and steel bars to stabilise what would have been mud and stone walls. (Kasbah du Toubkal website)



Fig-7: The local builders were involved from the very beginning. Local skills and materials were used in developing the design of the Kasbah. (Kasbah du Toubkal website)

the project used much which can be considered traditional such as the use of mud construction, the courtyard and terraces as traditional architectural elements, it introduced new building processes which were not part of the original Kasbah such as plumbing and electrical wiring, reinforced concrete columns and beams for structural stability, and multiple rooms and service areas necessary for running a modern hotel. The partnership between European technology and traditional Berber construction techniques and community building processes were developed hand in hand. It is important to point out the role the local community had in the entire construction process. The brass plaque at the main gate places emphasis on this (picture of plaque), 'Dreams are only the plans of the reasonable. La Kasbah du Toubkal, October 1995. Dreamt by Discover, realised by Omar and the workers of Imlil, entirely by hand.' The project of involving the community brought economic benefits as well as the positive social impact on the concept of ownership and responsibility through participation.

The resulting built form is one which represents local identity and which seems to be appropriate to the local context even if the building type is one that addresses a contemporary need – modern tourism which bring economic benefits to the local Imlil community.

Examples from Bhutan

In Bhutan there is a conscious effort to retain the nation's cultural identity which is closely associated with the Drukpa cultural lineage (Aris and Hutt, 1994).

Cultural laws and planning policies are enforced in order to achieve this. The *Dzongs* or fortress monasteries as well as the dwellings are forms of vernacular architecture which embody Bhutanese cultural identity (Dujardin, 1994, 1997).

The processes involved in the building process from restoration, regeneration and



Fig-8: The interior gardens within the Kasbah. (Lim, R)

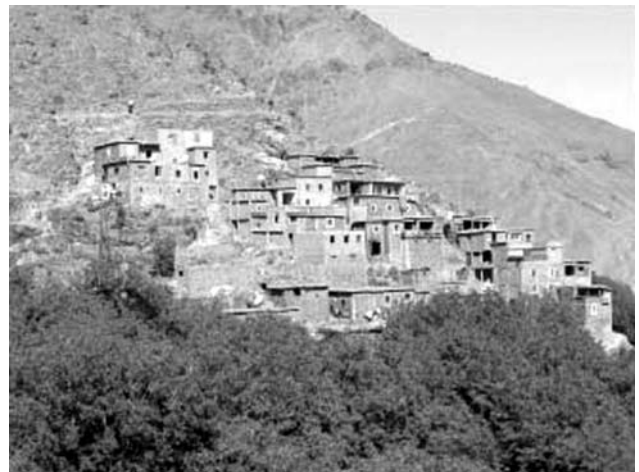


Fig-9: The traditional settlement neighbouring the Kasbah. (Lim, R)



Fig-10: Punakha Dzong is located at the confluence of two rivers is shown here undergoing restoration in 1999. The central tower is where the mummified remains of the *Shabdrung*, Bhutan's first King lies. (Lim, 1999)

the creation of new buildings involves various aspects of Bhutanese life and have bearing on the local economy, religion – in this case Buddhism, social structures such as family and gender roles (Lim, 2006). For instance the King has established an art school for the training of artisans on the skills and iconography of Buddhist building decoration. Because new buildings must be imbued with these decorative traits, these artisans are in great demand and will be assured of employment hence the whole process bearing positive economic contributions.

Because of the Mahayana tradition which promotes the close association between religious and secular life, the secular community benefits from the transfer of building technology developed in the building of the religious *dzongs*. This is evident in the similarity in form and construction between the *dzong* and the dwelling.

The religion and gender roles likewise influence the built environment. Because men as monks have religious roles and responsibilities it is towards the women that temporal responsibility falls. They have building roles and contribute labour in the construction of a woman's house in the community. The eldest daughter holds great responsibility for family and is most likely to retain possession and ownerships of ancestral land. The attention paid to various cultural aspects has significant bearing in the iconic buildings that have evolved in Bhutan's modern era. Here iconic meaning distinctly representing Bhutanese culture. The airport, schools, hotels and inns, the urban blocks of Paro, hospitals are new building types introduced in the modern era but carry an unmistakably Bhutanese character.

It would be a misconception if the idea of tradition in architectural practice becomes romanticised as only possible if projects exist in a pre-modern era or in a vernacular setting lying within the confines of a developing country or when traditional building techniques are used to perpetuate the past as in many restoration projects. It is important to focus on how the values of tradition and lessons learned from the way vernacular architecture is created and how



Fig-11: Tongsa *Dzong* was first constructed in 1650. The building became the provincial capital of central and eastern Bhutan and became the power base of the Bhutanese monarchy. King Ugyen Wangchuk was the governor of Tongsa before being unanimously voted as the first hereditary monarch in 1907. (Lim, 1999)



Fig-12: Ura *Lakhang* in Bumthang is a building of religious significance. The building technology used in religious buildings is modified and adapted to the scale of the farmhouse. The basic building techniques in carpentry remain the same but the design and scale of the components may change. (Lim, 1999)



Fig-13: Dwellings in Jakar Valley in Bumthang show similarities in terms of construction and building detailing with Ura *Lakhang*. (Lim, 1999)

traditional settlements are formed in a contemporary setting and in a culture from within the developed world. For this we will site an example which applies concepts of tradition in a community setting in the United States of America. Samuel Mockbee was an architectural educator who 'was spurred on by a love of architecture, which he saw both as an engine for social change and an art that enabled people to create great beauty'. He worked with architecture students from Auburn University to provide the impoverished clientele of Alabama's Hale County with an 'architecture of decency' (Dean and Hursley, 2002). Mockbee believed 'that the architectural profession has an ethical responsibility to help improve living conditions for the poor and that the profession should challenge the status quo into making responsible environmental and social changes.' (Dean and Hurlsey, 2002).

The architecture projects that are spread out over Hale County address these problems where students define the social context of the built form and are able to recognise issues for which solutions are designed. In the practice of building with available resources even if in this case materials range from a variety of discarded items such as old rubber tires, automobile windshields, rammed earth, discarded bottles, retrofitted abandoned buildings, baled hay, used timber, these projects portray a quality of traditional building.

In this case it offers the beginning of tradition as many of the design solutions so ably and creatively address the problems of the place. In Mockbee's view,

"The best way to make real architecture is by letting a building evolve out of the culture and place. These small projects designed by students at the studio remind us what it means to have an American architecture without pretence. They offer us a simple glimpse into what is essential to the future of American architecture, its honesty" (Dean and Hursley, 2002:2).



Fig-14: A newly constructed farmhouse in Paro valley built of rammed earth. (Lim, 1999)



Fig-15: A house in Paro valley being reconstructed with the help of the community. The wooden windows are assembled on the ground before being held in place by the rammed earth. Professional carpenters or *zopons* build the *rabse* or timber framed walling and the women and men of the village help in building the rammed earth walling. (Lim, 1999)



Fig-16: (all images on this page): The newly constructed Paro airport seeks to find a Bhutanese architectural identity by adopting architectural forms with historical precedents. The buildings are given a prestigious identity by the double *jabzhi* or double layered roof. The main structure is built of concrete but the windows and fenestrations use the traditional timber framing. Elaborate use of carved elements and paintings show the importance given to such a building which has become symbolic of the progressive changes that the country is undergoing. (Lim, 1999)





Fig-17: The Bryant Hay Bale House was the first house designed and built by Rural Studio in 1994 for Shepherd and Alberta Bryant who lived with their grandchildren. The students used eightypound hay bales wrapped in polyurethane piled as bricks to create super-insulated walls of cheap material. The Hale County's Department of Human Services had linked Mockbee's architecture class with the Bryants who were then living in rickety shacks and in need of a much improved home. (Hursely)



Fig-18: A separate structure was created as a smokehouse using discarded road signs for the roof and embedded glass bottles in the walls to admit light in and the walls of concrete rubble from a demolished silo. The main house features a porch reminiscent of local antebellum mansions. (Hursely)

By working with students: in understanding the cultural context of buildings; recognising relevant social and environmental problems in relation to architecture; building with available resources and developing new building techniques that respond to these recognised issues, Mockbee's Alabama project was certainly working with



Fig-19: As in all of Rural Studio's projects, the community centre is a lesson in resourcefulness. The trusses and benches were created from laminated cypress donated by a studio supporter. The steel trusses were likewise a material donation. (Hursely)



Fig-20: Mason's Bend Community Centre built in 2000 was constructed of rammed earth and recycled automobile windshields. The low, close to the ground form is in keeping with the community's vernacular forms and shapes. (Hursely)

concepts of tradition using the same sensibilities and values that have created traditional settlements and are used in the production of vernacular architecture. The design and building process that Mockbee's Rural Studio developed as a teaching and learning process for architecture students considers: (1) the creative process engaging with cultural traditions and identity (2) problem identification: recognizing and addressing contemporary issues relating to people, architecture and the built environment. As a process, Rural Studio embodies the third general concept presented in this paper which values the very same processes used in the



Fig-21: The Harris Butterfly House designed and built by Rural Studio architecture students in 1977. The steeply sloping roof, like butterfly wings were designed to channel rainwater to a cistern to be used for toilet and laundry and also to channel cool breezes into the house. (Hursely)

production of traditional settlements and vernacular architecture; i.e. sensitivity to the cultural context of place, participation and partnerships between builder, designer and users, and perhaps most importantly the buildings address the specific needs of the users. In a contemporary sense, Mockbee's pedagogical process is in close agreement with the concepts of how vernacular architecture is created.

(B) ARCHITECTS WORKING WITH TRADITION

In designing the Tjibao cultural centre in New Caledonia, Renzo Piano, 'had to delve into Elders the past, talk to the about traditions, and research a multitude of plant species some of which are also a link with the culture, ecology and geography of other Pacific nations'. The project successfully blends the architect's 'personal architectural vision, and striven to reconcile his own aesthetic priorities which included the importance of insubstantial elements such as light, air, transparency, natural forms as well as the human values of the communities in which his creations are set'. The project developed a partnership between the architects, engineers and the Kanak people resulting in the combined use of high technology and traditional values. By traditional values it is meant that the resulting architecture accommodates the: need to



Fig-22: The ventilated porch opens up to the rest of the house. Costs for construction were kept down with the use of a tin roofing and recycled pine from an old church that was being razed nearby. (Hursely)

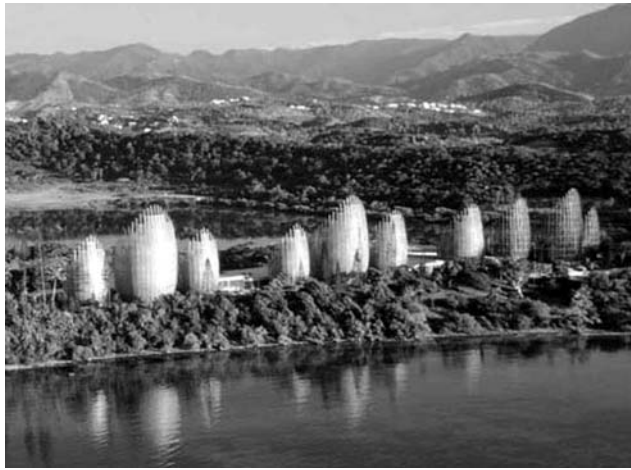


Fig-23: The Tjibao Cultural Centre. Renzo Piano picked up intangible qualities of Kanak culture and translated it to physical form. The form of the Great Houses was inspired by traditional Kanak house forms which are of different height and surface treatment and given a deliberate unfinished aspect as a reminder that Kanak culture is still in the process of becoming.

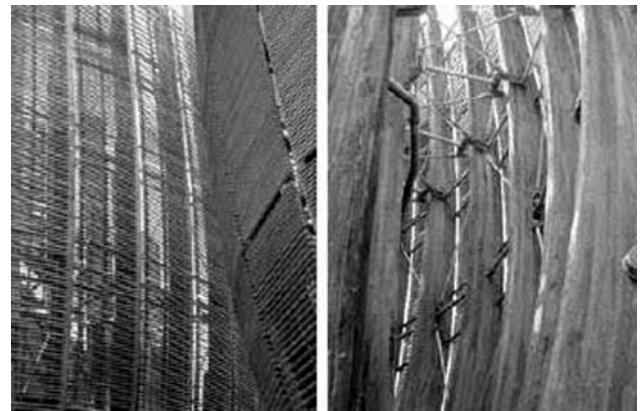
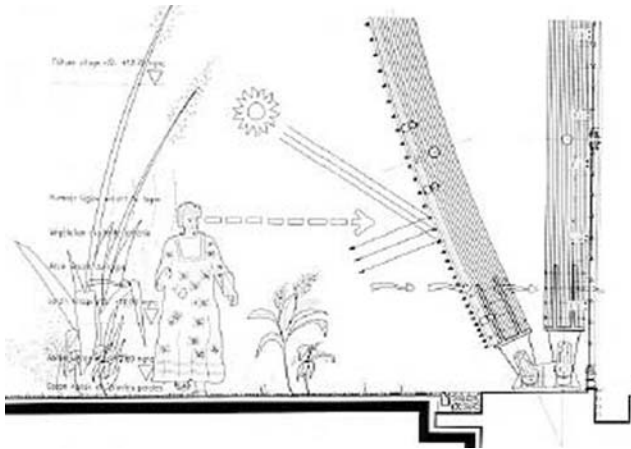


Fig-24: The Tjibao Cultural Centre. An inner façade of glass louvers which open or close according to wind speed, allowing wind to flow through the building for passive ventilation.



Fig-25: The Guadua Cathedral at Pereira, Colombia. The architect Simon Velez works with the specie of giant bamboo *guadua* creating large, structures by incorporating innovative joinery techniques. (Ajay Khanna)

represent Kanak identity; the use and meaning of space to the Kanak people; the natural environment and climatic conditions of the site; and draws a relationship between the Kanak culture's past and its future.

The work of Simon Velez is a 'successful synthesis of traditional Colombian structural designs, ecological processes, and avant-garde technology.' (Kries, 2000: 9). The architecture of Velez takes bamboo into the 21st century pushing the limits of traditional processes and building techniques by infusing these with current structural engineering principles, innovative joinery and a newly urgent environmental consciousness. These processes allow for the construction of buildings and structures that are



Fig-26: The Jenny Garzon Bridge in Bogota by Velez is a large scale hanging bridge capable of carrying the weight of pedestrians and cyclists. (Ajay Khanna)

recognizably rooted in the past, but are in fact extremely contemporary. They may seem familiar but are refreshingly new and are able to address contemporary functions and needs. Many of these buildings have pushed the structural limits of bamboo to levels never before achieved by traditional building methods. Despite the brave forage into unexplored engineering feats, the buildings retain the warmth and intimacy that comes with the traditional use of bamboo.

Bamboo is a material grown and used in many different parts of the world with building techniques developed by different cultures responding to diverse conditions and aesthetics. In Japan, the traditional use of bamboo has a rich history which continues in the work of contemporary artists and architects who like Velez draw on tradition but infuse their work with current creative processes in an attempt to produce built forms for today. The architect Shoji Yoh had intended that the Naiju Residential Centre and Nursery School to be built with community participation and to use locally available materials. Yoh's biography describes this project as 'uniting disparate elements – local craftsmanship with advanced technology, bamboo with poured concrete in order to create a bending, folding and undulating form that reflects the cultural position of the community and functions as a monument to their lives and works'.

Here, local basket weavers and the design team create a bamboo grid which is suspended over the site. The pliant and netlike grid was then formed into the undulating shape and covered with a steel mesh and poured concrete. A temporary post was removed after four weeks but the bamboo form was retained as part of the structure and ceiling. The resulting building and the process of construction, although reliant on tradition pushed its limits in a creative partnership between the architectural designers, local craftsmen and builders to come up with a form and process both new and appropriate for Naiju.



Fig-27: Construction process for this building involved the weaving of a bamboo grid by the local craftsmen which was suspended over the site and formed into the undulating shape which was then covered with a steel mesh and poured concrete. An important part of the process was the participation of the local craftsmen in the building process. The collaboration between the basket weavers, the architects, engineers and builders allowed for the development of an innovatively designed building.



Fig-28: Building process showing the collaboration of local craftsmen in creating the bamboo woven interior ceiling. (Shoei Yoh website)

The expansive portfolio of Geoffrey Bawa is an expression of timelessness where the merging of traditional practices with contemporary processes and ideas fuse resulting in built environments that transcend the ravages of time. Because Bawa's buildings were created not so much from the prevailing fashion or style of the era but out of concern for available resources and building techniques; climatic conditions, the landscape and

surrounding environment, and its relevance to the cultural identity of the people and place. Because of this, they have been able to retain their value and meaning longer than fashionable and stylish buildings. In his works, Bawa shows a masterful approach to working creatively with tradition. He is able to identify key design issues and problems, and resolve these through design principles that merge contemporary concepts and traditional practices and values.



Fig-29: Institute for Integral Education by Geoffrey Bawa in Piliyandela, Sri Lanka built between 1978-81 was a school created by the Catholic Church aimed mainly for school leavers and young people. The site is a steep valley running down through a gorge of rubber trees. The buildings created by Bawa respond to the shape of the two opposing valey sides and was conceived as a 'promenade through an ever-changing sequence of loggias, links and open spaces. The buildings show Bawa's skill for manipulating elements in a landscape to exploit the terrain and potential views (Robson:156)'. (Robson, D)

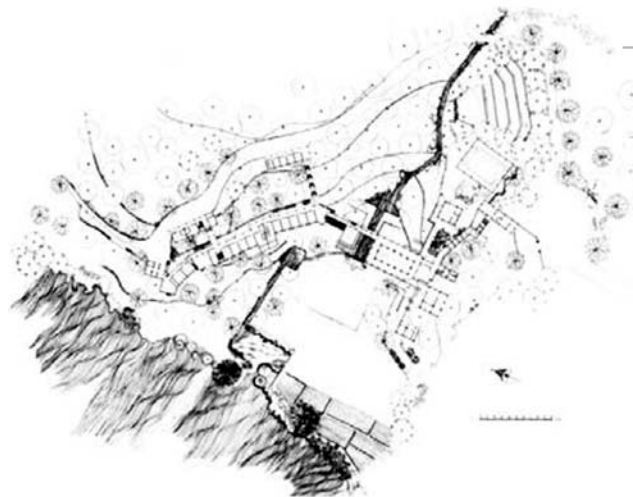


Fig-30: Plan of the Institute for Integral Education by Geoffrey Bawa in Piliyandela, Sri Lanka (Bawa Archive)

CONCLUSIONS AND RECOMMENDATIONS

All the case studies cited in the paper address identity issues in the built environment particular to their cultural context. This process is achieved by bridging traditional skills with contemporary design to deliver architecture and built environments which are culturally sensitive. The cases present various approaches for creatively engaging with tradition. They address different issues and problems; and apply design solutions which take from tradition and infuse contemporary principles and building practices for creating buildings, spaces and places which are not only new and refreshing but also provide meaning and true value for their users – the community and the people. These projects move beyond the aesthetic values of good design, though this is inherent, and consider the social, economic, environmental and cultural values that bring benefit to the people and the community. Collectively, the examples present us with the value of how working with traditional building skills often done, outside the classroom of architectural schools can offer new incentives for creating contemporary built environments which are culturally sensitive to people and place. There are however key pointers for carrying out this value in terms of architectural pedagogy and this may require a paradigm shift in terms of learning:

- Architects must be open to learning beyond the classroom, engaging and collaborating with traditional craftsmen in the design process.
- The partnership between the local community, architects and building professionals must be valued as a learning process between parties resulting in refreshing and vibrant forms of appropriate architecture which may be the start of new traditions.
- Professionals need to focus on processes which address the cultural context of building and living by giving importance to social, economic, environmental and cultural factors that have a bearing on the built environment.



Fig-31: Aerial view of the Kandalama Hotel.. (Richters)



Fig-32: Sectional elevation of the Kandalama Hotel designed by Geoffrey Bawa in Dambulla, Sri Lanka built between 1991-94. This elevation shows the relationship of the building to the cliff. It was designed not so much as a building to look at but a building to enjoy the views from. (Bawa Archive)

- Understand how the process of engaging with tradition and infusing it with contemporary practice and values becomes relevant to identity building through active community participation defining ownership by contribution in creating contemporary built environments and how this process may in turn create new cycles of tradition.

This paper is meant to inspire both students and professionals to further engage with the process of working with tradition as a way into the future. To do this one must fully engage with the creative processes because the future is indeed a difficult prediction. Since working with tradition mean can also being rooted in the past but being fully engaged with the present in order to responsively create a meaningful future.

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