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Environmental Education: Creative place-making in Papua new Guinea

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ABSTRACT

This paper addresses how experience of environment may be an important stimulant in the creative process through which appropriate architectural place may be made. We will argue that with a better understanding of their own reactions in and to environments architectural students may be more sensitive to the effects of their architectural gestures on others. Accepting that such depth experiences are mirrored in archetypal forms and patterns in indigenous architectures, we will use as a case study the education of architects and the creation of architecture in Papua New Guinea [PNG]. We argue that an appropriate architecture, responsive to the locale of PNG, offers the antithesis of the often *inappropriate* internationalised architecture.

Keywords: Place-Making

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1.0 CREATIVITY, ENVIRONMENT AND MAKING PLACES

Psychiatrist Donald Winnicott believed that creativity [or play] is essential to the psychic growth of the individual, and to the primary environment that is firstly mother [Winnicott, 1971]. Other psycho-analysts, including Klein, Fairbairn, Milner, and Guntrip also explored factors of environment, drawing psycho-analysis towards the relations between infant and mother as "the basic cause of the trouble" [Fairbairn, 1941], since "in the beginning one's mother is, literally, the whole world", according to Marion Milner [1950]. Indeed, Winnicott was the first to suggest a key role for *environment* in psychiatry through exploration of the early experiences of an emotional embrace, through to the character of subsequent environments, engenders in us a sense of the deepest sense of place. With security at this level, later psychic security is more likely, and human creative growth, both psychic and artistic, are naturally forthcoming [Winnicott, 1958]. From understanding this *primary* need to be held [to feel safe], comes a sense of the deepest nature of architecture. Thus relating such a theory to the process of making architectural environments draws together the activity of inner psychic health [and therefore creativity], to the outward capacity to problem-solve, and to craft artefacts; in particular the environment of PNG in which the activity of physical making is generally integral to everyday survival.

To live creatively in Winnicott's terms means to have the capacity to be *divergent* in one's thinking, and be able to adapt and invent more easily, as Joy Guildford has explicated [Guildford, 1967], rather than convergent] in their thinking. This applies as much to creative decision-making as to making art. Indeed, divergent thinking may come easier to a majority of people still interacting in complex ways to the natural environment, and still creating virtually all they need by hand for survival. For instance in country such as PNG, the process of getting water from a natural source in the highlands requires more task-related skills than turning on a tap in suburban England. How many problems and manoeuvres, both mental and physical, are involved in each solution?

2.0 MEMORY AND THE EDUCATION ENVIRONMENT

If the educational environment can be extended to question the environment [both *primary* and emotional, as well as subsequent physical environments] from which the student originates [and from which their prejudices and predilections have grown] the student may gain understanding of their conceptual framework and creative reaction to different situations and environments. This may also help the individual to better understand the fecundity of the body-mind connections. In addition, any tension that may exist between the realms of educational context and background culture can be used to stimulate creative solutions, as the students dissolve the walls of the studio and the boundaries of the body of knowledge, inhabiting what Malcolm Quantrill calls the complex theatre of possible encounters [Quantrill, 1987]. This *theatre* comprises the patterns of interactions for which the town or city, the body of architecture, but also the student's own experience and knowledge are the framework.

Other-than-city-environments, such as those in PNG, are no less of a *theatre*, and have no less an intricate network of patterns of relationships and characteristics, be they folkloric, geological and ecological, perhaps, rather than those of the urban tangle. It may be harder for a student in London to tease out primary human patterns of settlement, than for a student in PNG. Of import is the *process* whereby the student learns to tease out the ecology of relationships – be it between human use and animal use, the natural environment, or the patterns of human settlement and natural forms, which Christopher Alexander's pattern theory highlights [Alexander, 1979].

3.0 GROWING AND OTHER MORAL SENSIBILITY

A shift of educational perspective is part of a process of identifying how architectural education may equip the student to address whichever *actual* environment s/he is commissioned to work in, and how to formulate an appropriate system of questioning that environment; and here the environment may be

material or metaphysical – hence the project work may involve the psyche as well as the head. If students of architecture are in their early twenties, and have relatively little experience of life, independence of mind may be difficult, requiring an educational environment that encourages such inner work. Indeed, even the process of careful and lengthy listening to both people and place [and the subsequent lengthy analysis of this], demands maturity. Colin St John Wilson has examined these issues of the ethics of architecture at length, suggesting that thorough analysis of the problem leads to a capacity to design *knowing the whites of their eyes*, a process that takes time and demands attentiveness and maturity, and indeed a certain humility [St John Wilson, 1993]. More recently Wilson and Long [2002], from their thirty years of practice have developed a strong belief that understanding the problem is central to appropriate architecture – and defines the *Other Tradition*.

In his book *The Image of the Architect* Andrew Saint goes beyond Wilson's call to examine the ethics of architecture by addressing psychology. He asks, "Do architects know themselves?" [Saint, 1961]. Saint [1961], also suggests *time and again, architects seeking self-definition and self-justification involve bewitching powers of art. Yet time and again the deepest analysis of how they have become what they are, or the frankest account of how they spend their time seems to have little to do with art.* Uniting "aesthetic and moral sensibility" as Saint suggests, the making of architecture can be recognised as a complex process in which human imagination may call upon human sympathy for the unique users. The unique cultural and environmental contexts are allowed to coalesce and architecture is not allowed to offend the locale. Rather, students are taught the ethical as well as the creative import of the examination of purpose and place as a crucial tool to develop the capacity to listen to the client and to look without prejudice. The argument of architectural purpose can be drawn back into the context of making architecture in a nonwestern environment by citing Hassan Fathy's approach to architecture [Steele, 1997]. Fathy's six principles were: primacy of human values; universal rather than limited approach; appropriate technology; social-orientation; co-operative construction techniques; essential role of tradition [Steel, 1997]. This, too, demands a maturity with which comes acceptance of the *other* as separate from oneself, acceptance of the project as *other*. Although a simple psychological tenet, this is extremely relevant to the architectural school – to empathise and understand but not to project oneself into the *other*. This subject is discussed by Arnold Berleant in his exploration of environmental aesthetics. His development of Environmental Aesthetics draws discussions of the engagement with a setting to the fore of aesthetics, and is pertinent in this context [Berleant, 1996]. Educators in the sphere of architecture can usefully become aware of these processes of human creativity though which runs such an *ethical line* [Ekman and Sibelius, 1938].

Thus, we suggest, an educational process that is more consciously designed to encourage the process of the growth of individual identity [a sense of self to which creativity is integral], may vicariously equip the student to act independent of trend, and to draw out *difference* and *otherness* inherent in the locale. This should automatically question normative consumptive values of the *globalised* world that can lead to passive *consumption* of education through non-participatory [even lazy] processes of teaching and learning. Aldo van Eyck sought to counter such abstract problem solving by embedding design in the real *circumstances, lived-in conditions*, or *experienced cases* [Lefaivre and A.Tzonis, 1999], and by challenging the young to become engaged in the world and its unique situations; to join creative expectation with personal and collective remembrance [van Eyck,n.d].

4.0 PRIMAL OR INDIGENOUS? SEARCHING OUT ARCHETYPAL PATTERNS

Renzo Piano modernises van Eyck's sensibilities, describing this approach as the necessary and rich awareness of a designer's process of "stealing the dynamics and stress points of the vernacular culture." [Piano, 1997] As well as acknowledging the need to measure physical remnants of indigenous cultures, this encourages openness to the metaphysical realms through which these cultures have established identities for themselves. A concomitant process is that whereby individuals [be they in the PNG highlands or in a Newcastle studio] identify themselves with their *group* – especially when identities and patterns of

human settlement are being lost through globalisation. We argue that the students can also learn to identify the different phenomena acting within themselves. In other words, it is not enough to teach about these cultures, but rather to offer the mechanisms by which they may be *experienced* through study, and therefore the human experiences and subsequent creative process that came to make the forms may, to some degree, be recognised as being congruent with aspects of the student's experience and their psychic creative processes [Menin, 2003].

Drawing the argument towards the particulars of PNG, we recognise the fecundity of equipping the student to seek out and respect what Bernard Rudofsky has called the "vernacular, anonymous, spontaneous, indigenous, rural" [Rudofsky, 1964], since through this they will come to understand something of the mental and emotional processes of making shelter which imbibe humankind. We highlight the indigenous because by studying it the student learns about the instinctive and archetypal *processes* of making and living architecture that are equally enacted in their urban contexts – but from which they have become estranged through the intermediaries of estate agents, corporate builders, and an often burdensome architectural heritage. This is not to say that students should design modernised ethnological specimens, but rather that they should be taught to be alert to "the threads of unrecorded reality" [Langer, 1993] both in the environment to which they are adding new buildings and in themselves as creative agents. Once the process of self-questioning is taught, it may become embedded in the creative process; a process of design by human empathy.

Serge Chermayeff and Alexander Tzonis see this in terms of commitment, concluding their seminal book *Shape of Community*, "A Theory of Design may reasonably lead to new forms of commitment instead of commitment to new forms."[Chermayeff and Tzonis, 1971] With van Eyck they suggest 'Theory, in any case, must always be tested against real situations [when commitment must be translated into action]. According to Chermayeff and Tzonis [1971], this is crucial because the proposition herein is not related to a particular architectural aesthetic, but rather an essential creative process inherent in human creativity and in particular the architectural problem.

5.0 THE EGO OF THE ARCHITECT: GROWING, SELF RESPECT AND ARCHITECTURE

In this altered perspective, the student architect may learn to see him/herself in relation to the project and the setting, inhabiting it imaginatively, and relating it back to their own basic human needs [or primary environment] [Day, 1990], while also having a critical distance from it. Such an approach helps them to go beyond the latest architectural fashion, to get in touch with how they feel in a space, both haptically and mentally. This draws into architecture an unequivocal moral imperative – the ethics or propriety [or even *probity*] of architecture, as Wilson has put it [Wilson, 1981]. The juncture of ethics and aesthetics causes a fault-line in architecture since so often its nature as a practical, rather than a fine art is not understood [Wilson, 2000]. Victor Papanek, guru of appropriate design and technology has written: "Before one can begin to think about the place of the built environment in our time – an age that is increasingly concerned with ecological and environmental issues – it is evident that we must learn to look at buildings, homes, settlements in a different way [Papanek, 1995]. The architects see themselves in relation to the project and the setting, how they engage, and thus concerns having the attitude of dominion not dominance over the context [Day, 1990]. Such respect may accompany self-confidence, so that there may be a disassociation of the scale of the architecture and the ego of the architect. This idea challenges much of the history of the architectural profession, certainly over the last hundred years, in which the image of the architect is one of an omnipotent god-like figure, hero and Genius [Saint, 1983],epitomised by the huge egos of Frank Lloyd Wright or Le Corbusier or more contemporary architectural gods.

6.0 CARGO, CULTURAL BAGGAGE AND THE ENVIRONMENT OF PNG

When students from less *developed* countries go away to big foreign cities to study big foreign architecture they too often return with uncritical attitudes that aspire to foreign bounty. Only if the young architect has gone through a process of knowing themselves and their place, can they respect it, and not give it less value than that which they see abroad. For this to happen there may need to be a growth of confidence in the *self* and knowledge and respect for the value of one's *place*, and this often follows the appreciation of one's own creative energy. In PNG for instance, a clear need grew to challenge any inclination to aspire to the [misguided] heights of urban Hi-tech forms, in preference to the more humble indigenous architectures with which the indigenous users may identify, and which may therefore be collectively *owned*.

This case for attention to be paid to an integrated approach to architectural creativity is brought into focus though the example of PNG. Due to its dramatic natural topography PNG comprises hundreds of isolated indigenous tribes [or nations] that speak over 700 different languages, and which each have their own interpretations of their environment and consequently their own cultures. It is also a country characterised by ritual, superstition and on-going inter-tribal retribution or *payback*. Until fifty years ago virtually no *drawn* building existed in PNG, remaining in what Amos Rapoport describes as the *primitive* stage of architectural development [Rapoport, 1969]. In 1972 an eminent local politician, called Yali, commented to a visiting white man: "Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?" [Diamond, 1998]. For *cargo* we can read cultural baggage and material bounty or artefacts. Here we ask how PNG nationals may be educated to discover, design and develop their own, rooted *cargo*, those architectural artefacts of 21st century PNG.

We will address the issue first by looking at the development of aspects of architectural teaching at the University of Technology in PNG [Unitech], and then by examining some attempts by eminent architects to address the production of indigenous '*cargo*', inspired by [and sometimes limited by] local custom, village ties, cultural tradition or lack of resources.

Tony Peck, Chief Architect of the Department of Works, PNG, up to the mid 199 0s believes that adapting the education of nationals to the culture of the locale is one way to avoid the imposition of Western-type development which has "little reference to the *native* environment of their origins in rural areas." [Peck, 2003]. National students who study architecture abroad are aware of deep conflicts, and question the relevance of this education. They also experience "a feeling of alienation or dissatisfaction on return to their countries to live and work", according to Peck [2003].

A Papuan national, Dr. Kora Korawali, has addressed this, writing about the educating of nationals in architecture. In Hawaii, where he studied initially, Korawali experienced the importation of solutions from the USA, and the *downgrading* of the rich tropical environment of that island culture [Korawali, 2003]. In contrast to the latter traditional studio-based course, the Australian course Korawali later attended was Bauhaus inspired, rooted in a problem based learning model. He [Korawali, 1999]. describes how,

The challenge in professional education is to develop an appropriate learning environment in which students are encouraged to be creative and to develop higher problem-solving skills which enable them to evaluate problems and then recommend the best possible solutions .

This is crucial in architectural education generally, and Korawali suggests, in PNG in particular. In the education offered so far in PNG the teacher imparted knowledge in a way that Korawali believes "impedes creative thinking" [Korawali, 1999]. He and his colleagues are now seeking to emulate workplace situations, and introduce integrated problem based learning [Korawali and Kingsland, 1997], that seeks to promote *self-learning*; something Korawali believes is more closely allied to the traditional learning and inherently involves divergent thinking, discussed above " [Korawali, 1999].

7.0 NATIONAL CHARACTER? PLAYING WITH INDEGENOUS REALITY

Yet, just as pressing is the study and analysis of national culture so that when adapting traditional building methods to current requirements there is not slavish reproduction of the vernacular, but rather a creative reflection upon both the past forms and extant social patterns which those forms accommodate. This, Peck believes, should produce "spectacularly fine buildings expressing indigenous spirit and traditions without compromising modern requirements." [Peck, 2003]. What is less desirable is "essentially alien [*western*] design incorporating local art debased as cosmetic cliché when applied inappropriately without understanding its intrinsic significance. [Peck, 2003]. In Piano's terms this demands the architect "to try and understand how this culture was born, why it has followed certain tendencies, what philosophy has shaped it." [Piano, 1997] Peck concludes from his experience that the *intrinsic* character of the society must be understood. This leads both he and others to suggest that, in the case of PNG and other developing countries, there should be a greater use of low technology methods of construction, material and services [Peck, 2003].

One successful means of teaching that has been adopted at Unitech, in Lae, PNG, is that of the master class. A series of architects from Papua and Australia were invited to lead workshops at the university. These were architects whose work and working process the Papuans believed to be appropriate to their *own* place that is the PNG context [Korawali, 2003].

8.0 CELEBRATING THE ORDINARY: REINTERPRETING THE FAMILIAR

One architect approached was Richard Leplastrier, whose buildings are said to "resonate with the memories of many cultures, and in a remarkable way, seem to integrate Western and non-western traditions [Korawali, 1999]. These are characteristics of the constructivist theory of education [Duffy and Jonassen, 1999], a core theory of learning from which most innovative learning models are being derived. Korawali cites Novak [1998; Spense, 1998]. Leplastrier worked with Jorn Utzon and Kenzo Tange, developing strong ideas based in part on Cullen's notions about sequential space, and integrating a building with its surroundings. Since understanding the locale in this way is vital to Leplastrier's architecture, he saw the invitation to PNG as a chance to learn more about the origins of human settlement and the essentials of living. He declined the offer to be accommodated in the country's best hotel, instead boarding with a local national family in a coastal village, where houses are supported on tree-trunk stilts over the ocean.

With the students Leplastrier chose to discuss the concept of the adjustable envelope that can be finely tuned to climatic circumstances, providing necessary shelter, but subtly connecting the inhabitants to the outside [be it weather, smells or noises of the place]. His designs demonstrate such a concern for minimal impact on the site both visually and ecologically, and he seeks to use materials in an *as-worked* state, to be connected with removable fixings, so if need be the buildings may be dismantled, and their parts recycled without wastage. The internal planning of many of his buildings reflects the same humility, by celebrating the archetypal acts of gathering around a table or floor – still the focus of most PNG dwellings. Perhaps the most important reason for Leplastrier being invited to PNG was his ability to sensitise his design skills around observations of the subtleties of the re-enactment of clearing ground, and making human settlements [Spense, 1998]. In Heideggerian terms "making room for dwelling?"

9.0 REINTERPRETING THE FAMILIAR

Rex Addison who had practiced in PNG from 1978–82, also gave a master class. His architecture has been characterised as "reinterpreting familiar elements and conventions of the local vernacular and reassembling them in new combinations of great individuality. [Spense, 1986].
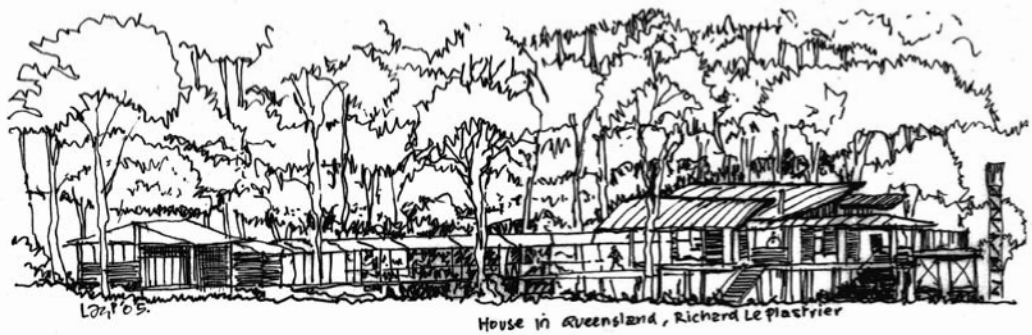
Fig. 1.0, House in Queensland. Richard Leplastrier, Architect. © Lewis Preston.

Fig. 2. 0, House near Brisbance. Rex Addison, Architect. © Lewis Preston.

In his Raun-Raun Theatre [with Paul Frame] in Goroka, PNG, Addison adapted the traditional round conical thatched form of highland house to create a large public building.

Although the major span was achieved with timber truss [technology unknown to villages] the building draws on their indigenous cultural tradition.

Fig.3.0, Raun Raun Theatre, Goroka. Rex Addison, Architect. © Lewis Preston.

10.0 INDIGENOUS FORM-MAKING

Another example of rooted, considerate modern intervention is offered by PNG based architect David Richardson [DRA]. With his national architect colleagues, Richardson had won the competition to build the PNG Pavilion at the Seville World Fair, 1992. The brief required a design that could combine a *form* of national identity and/or meaning, that could be prefabricated, and could *tell a story* about PNG. DRA drew on the form of the traditional Haus Tambaran' [the ceremonial cult house of the Sepik area] but adapted the normally raised simple level platform volume into a multi-level, multi-use area with an interconnecting series of volumes to satisfy the Expo brief.

Richardson's design for the PNG National Courts of Justice 1994–95 sought a form that reflected the traditional village court system of justice. In tribal society each village was governed by a *big-man*, elected by peers for their discerning wisdom, judgement and decision-making abilities. Since in the highlands there were no buildings larger than a dwelling, this justice was enacted in the open under the shade of the largest tree in the circular *village square*. DRA proposed a large, naturally vented gathering space. Effectively this comprised a large shade roof supported on a tree-like structure, which was then surrounded by circular courtrooms. This very simply reflected the village-scape of huts around a central space; a contemporary building that consumed minimal energy. It is interesting that Victor Papanek notes how amenable the Papuan State that was still emerging from a virtual stone-age culture, was to accepting initiatives for environmental control. "Through simple organisation and the development of a consumer movement, Papua New Guinea was fifteen years ahead of many technologically developed societies in ecological awareness [Papanek, 1995].

11.0 CONCLUSIONS

Although the principles of our discussion have been broad, by limiting our case study to PNG we have sought to highlight two main points. First, we have suggested that emphasis can be put on the role of an architects' early environmental experience, from which grow presumptions about the subsequent physical environments we experience and then design. Secondly we have suggested that architectural education must offer a process through which architecture students are challenged to better examine their own experiences in different environments. From this can grow an understanding about one of the deepest phenomena of architecture – the capacity to hold and the experience of being held – which is enacted in all indigenous architectures, but which is so often lost in modern environments. This may help re-root the process of making architecture "for each man and all men, since they no longer do it for themselves," as van Eyck put it [Smithson, 1968]. From this they may gain sensitivity about the impact of environments upon others – and thus design with a heightened sensitivity to both place and its impact upon people. Through the context of PNG we have suggested that both the study of the patterns of such relationships between people and place, but also within a person, have begun to result in more considerate architectural interventions.

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