A Post-Modern Conceptual Framework for Design and Design Pedagogy:

A Response to the Global Transformation

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INTRODUCTION

As a starting point, this paper takes as a given that we live in a time of global transformation marked by social injustice and poverty, violent social settings, environmental degradation, and limits to environmental sustainability. These problems are particularly severe in third world settings, but are also evident in the so-called developed world.

These factors set the context for post-modern professional citizenship. "Post-modern" is defined for purposes of this paper essentially as "post-industrial." It is associated with the communications revolution following Sputnik and the shift in the employment base from predominately blue-collar to predominately white collar and pink collar, beginning in the U.S. during the mid-1950s. The term "post-modern" is also associated with the accompanying shift in science away from Cartesian and Newtonian thinking towards epistemologies and methods which are far less deterministic.

Key structuring ideas for the paper are drawn from the work of two leading critics of the global transformation process. The first of these, David C. Korten, blames the failure of the modern approach to development on the *inadequacy* of representative (third-party) institutional structure in government, the business sector, and the voluntary sector. He proposes a fourth sector comprised of "people's organizations," defined as first-party (democratic, self-reliant, mutual benefit) organizations which are able to integrate the functions of the other three sectors on direct behalf of their respective memberships. He also advocates "people's movements" energized by an alternative vision of development adequate to mobilize voluntary action on a national or global scale.[1]

Richard B. Norgaard argues in a similar but more comprehensive manner that modernist development has actually *betrayed* progress in terms of the prevalence of resource depletion and poverty, governments which are powerless to deal with the complexity of environmental and social problems, and the inability of the modernist paradigm itself to address interwoven environmental, organizational, and cultural problems. He blames the modernist failure on three beliefs which are central to its epistemology and methods, the first of which is that our idea of progress is erroneously based on man's capability to *control* nature. Secondly, logical positivism (separation of fact and value) and monism (separation of the sciences into compartments) are responsible for the failure of modern technocracy to be able to solve complex *interlocking* scientific and value problems, precisely because we allow narrowly focussed technocrats to do most of the social decision making while excluding non-technocrats from the process. Thirdly, modernists believe that cultural differences will disappear as non-western peoples discover and adopt the *superior* western culture, based on scientific rationalism. To counter these beliefs, Norgaard proposes a paradigm of *coevolutionary change* in social and ecological systems. Based on ideas drawn from ecology, this paradigm is based on continuous non-linear positive feedback between the two evolving systems, unlike Newtonian mechanistic models which employ negative feedback to maintain equilibrium.[2]

In the second part of the paper, these ideas are compared with the character of the architectural practice engaged in by Peter Ozolins, in Tanzania and Madagascar, during the period 1984-1993, in order to identify similarities and differences between emerging theory and prevailing professionalism as practiced in these two developing countries, caught in the backwash of the global transformation. Selected aspects of U.S. practice are then compared in the same way.

In the last part of the paper, a synthesis of theory and experience from professional practice is developed for purposes of preparing a set of general guidelines for design pedagogy appropriate to the early formative years of the 21st century.

PREVAILING IDEAS ABOUT PROFESSIONALISM IN EAST AFRICA AND THE U.S.

A. In East Africa

Community in Society. Here is an area where the West is far, far behind Africa and many so-called less developed countries. In the emphasis on individualism and personal freedoms and choice, the West has lost sight of some basic dimensions of the human condition. Julius Nyerere, former

president of Tanzania reminds us that ..."man lives in society. He becomes meaningful to himself and his fellows only as a member of that society."[3] This sounds so simple that it is hard to imagine that that insight could be overlooked. Yet Amitai Etzioni identifies the growth of individualism in our Western societies as "a dislocation of our value pattern, where we learn to emphasize the self and the individual ... we have stopped worrying about the public interest, the moral fiber, which in the end is essential for any community to work."[4] It is in this context that Korten calls for "people's organizations."[5]

In Madagascar and Tanzania, Ozolins never felt any such ambiguity or confusion about the place of the individual in relation to the community. While the individual is important in any conflict situation in which s/he finds himself, the Tanzanians and Malagasy would always work to bring about reconciliation and cooperation rather than to identify who was right. By contrast, Ozolins and the expatriates with whom he worked often were shamed, in retrospect, by their concern for their own pride and individual interests.

The idea of community in society brings to mind E. F. Schumacher and the constituent elements he defined for good work:

> First, to provide necessary and useful goods and services. Second, to enable every one of us to use and thereby perfect our gifts like good stewards. Third, to do so in service to, and in cooperation with, others, so as to liberate ourselves from our inborn egocentricity.[6]

Control of Nature. The few high-rise buildings in Dar-es-Salaam, Tanzania's capital, give testimony to a man-against nature approach to the "modern" built environment. Frequent power outages and lack of replacement parts make travelling in an elevator something you pack a lunch for. Non-operable windows in these buildings block the constant cooling breeze off the ocean, resulting in a sweltering and unsafe office environment during the sometimes prolonged power outages. Chronic water shortages make the toilets unusable for much of the day.

Buildings can be made livable without the huge financial resources required to make electricity and water services continuously available on demand. Traditional and colonial designers worked more sucessfully with the local and regional climatic and geographic parameters. High, light-colored ceilings and large window openings allow for natural lighting. Orientation of wall openings and shading of the exterior walls facilitate penetration of breezes and protection from solar gain. Plumbing can be arranged so that toilets can be flushed with greywater rather than precious clean water. All of these latter approaches are consistent with Norgaard's conception of coevolutionary adaptation.

Differing Value Perspectives. As a built-environment professional addressing the needs of a given community in Madagascar or Tanzania, one must constantly be aware of the temptation to assume knowledge of what the clients or users want and need, based on one's special role as a professional. Richard Martin warns that as architects:

> ...our very specialisation and professionalism disqualifies us from being relevant to the poor as individuals because our values are not the same as those of the poor for whom we are designing.[7]

Thus, there has to be a continual search for understanding the world view and context of those served, as well as a healthy skepticism about the applicability of one's own culturally based concepts and understandings. This attentiveness to the viewpoint of the client or user group is necessary not only for expatriate professionals. In fact, the Malagasy or Tanzanian urban professional may well have more in common with expatriate counterparts, because of similar education and worldview, than with those rural peasants with whom s/he shares a national language and heritage.

To ignore this crucial issue of intercultural understanding is to court a failed built-environment outcome, of which one can see much evidence, such as the decrepit low-income government-sponsored housing in Antananarivo (Madagascar's capital), occupied by mid-level bureaucrats and others of the middle class.

A simple reason why other cultural viewpoints are not given full attention is that we as Westerners "just don't get it," and therefore do not appreciate their value. One example of such a view that Westerners find disconcerting is the *fatalism* that one often finds in traditional societies. Fatalism is understandable upon reflection as a kind of survival mechanism in a hostile and arbitrary environment. But it goes against the grain of the pro-active Western belief in the capacity of humans to better their lot through their individual and collective effort. An appreciation of this aspect of traditional culture helps to understand people's action or lack thereof.

Intercultural Linkages. Professional architectural practice in Tanzania and Madagascar involves other conceptual reconfigurations, as well, which figure in what the built-environment professional's work actually comprises. A broad range of tasks, some of them unexpected from a western perspective, is required of the architect as a basis for the realization of any project. For example, some understanding of international finance is necessary to make cost estimates in both foreign "hard" currencies and local currencies which are constantly undergoing devaluation and inflation, and to monitor the flow of project funds that often originate with foreign donors. Owing to lack of building materials locally, foreign sources may have to be located, prices and quality compared, and materials ordered and shipped. Transport from port-of-entry to project site has to be arranged and assured.

Even though it is most often overshadowed by the sheer mechanics of getting a project built, good design is always the *sina qua non* of ultimately successful projects. This is evident in the numerous buildings that are unsuccessful because they are built without adequate consideration of how the local people make use of space, or maintenance problems

that must be taken care of by local craftsmen with local means, or the fragility of the various infrastructural support systems, or the imperatives of climate.

Attention to local culture and conditions helps the built-environment professional plan his interventions. Observation of local construction practices provide important clues as to how to react to local conditions. In Tanzania, for example, builders are able to save the cost and effort of making gravel for roadways by substituting *murram* - a locally available volcanic sand with performance characteristics similar to gravel.

Built-environment professionals practicing in contexts such as Madagascar and Tanzania need concepts both broad and pluralistic in order to function successfully. Julia Robinson sees in cultural pluralism a lesson and an opportunity for architects:

> An architecture responsive to the richness of culture cannot be limited to one way of designing or one style or one (Western) tradition as the only acceptable "architecture."...Our approach to design must create a community from diverse expression, using principles that are both accepting and unifying."[8]

Graeme Hardie reminds us that it is not simply a choice of one culture or another, but rather the outcome of their meeting that is important for built environment-professionals to consider:

> A crucial question ... and most relevant to developing countries, is the ability to understand the impact of changing and modernizing values on traditional values and the resulting impact on the organization of the physical environment.[9]

B. In the United States

In the U.S. a reaction to the traditional linear model of progress and development can be construed from the architecture profession's belated realization that surrendering the supervision of building projects to the separate profession of construction management means not only loss of project control and income but a strict limitation on architects' ability to design successfully. The design process involves a give-and-take between the architect, the client and the contractor that continues until project handover. Each party's conception of the project actually co-evolves until it is completed. In a recent issue of *Architecture*, various strategies are outlined for architecture firms to regain involvement in supervision of building construction and thereby extend their involvement in the process of project development.[10]

A co-evolutionary approach to design and the built environment asks that concepts such as traditional and modern approaches inform each other, being less rigid and categorical. Gary Black and Kyriakos Pontikis of the University of California at Berkeley are working with designing buildings with traditional forms but arriving at them through the use of modern materials and methods. They argue for "a definition of traditional architecture in which modern building methods are integrated into the design process."[11]

In his work on affordable housing projects in India, Howard Davis of the University of Oregon discusses the importance of a 'process-oriented approach to housing' in which the final product may be unknown but rather unfolds through the process. Essential to this approach is an understanding and appreciation of the local building culture which includes the builders, their tools and techniques, the local officials and even bankers in order that the project would make sense and be accepted in its context.[12]

"Green architecture" exists in the U.S. but does not represent the prevailing pattern in practice or in education. Architecture as a profession has not taken a leadership role in linking design of the built environment with protection of the natural or the social environment; it is losing out to specialists in other fields such as landscape architecture, engineering, real estate development, management, and urban policy because its intellectual and institutional framework do not give it the leverage it needs to synthesize across these specialty areas.

A prototypical alternative to the conventional organization of professional practice, to permit the kind of synthesis needed, could be in a form of multi-professional, regionally or locally based "environmental maintenance organization," analogous to the health maintenance organization (HMO) in the health field.

IMPLICATIONS FOR ARCHITECTURAL PEDAGOGY

The discussion and examples above indicate that co-evolutionary thinking and alternatives to conventional ideas of development and modernity are already present to some extent in practice in the design and production of the built environment. How will such ideas and realities be reflected in the teaching of planning and architecture?

First, it could be through stressing the importance of an understanding of the *context* in which we operate and a sensitivity to differences we find there. We do not mean context merely in the narrow sense of the specific site, but in the broader holistic sense of the component elements that comprise any context in which we are to operate as built-environment professionals. Such elements include the values of the people and communities served, as well as scientific, technological, and aesthetic values. Analysis and synthesis processes in studio should reinforce these linkages through use of problem settings which include institutional considerations in different cultural contexts. Resulting design solutions thus would have to include implementation strategies.

The importance of such context-appreciation skills could be demonstrated through a parallel to the sport of *orienteering* in which participants are placed in unknown natural environments with a compass and are asked to find their way to a

given destination within a certain time limit. In design and planning, this could be done with a combination of case studies (adapted from models pioneered by business schools) and studio assignments, in which students are asked to deal successfully with strategic opportunities and constraints in specified cultural and environmental contexts.

Design and planning could be taught as *improvisation* in addition to a linear sequence or system of steps from start to finish. How do professionals deal with unforeseen elements? How do we solve problems while still hanging on to core ideas? We might call this "teaching students not to plan or design," in terms of contingencies which always come up, especially in unknown community and cultural contexts. This approach is consistent with Norgaard's ideas which stress the importance of non-linear, positive feedback relationships which characterize coevolution of social and environmental systems. The key to finding your way through such a chaotic system has to do with identifying fundamental criteria and trends which establish the most important patterns, but which may themselves be contingent on other changes in the system. Case study and studio exercises which require a variety of solutions, depending on such contingencies, would be appropriate pedagogical tools.

The disaffected lone artist with hair blowing in the wind is unfortunately still the image many schools encourage in their students. But architects, in order to deal successfully with the broader context, must be able to *communicate* more effectively with other participants in the process. Oral, written, and computer skills must be honed as well as graphic and three-dimensional spatial skills, and must be interrelated in studio exercises. The broader context also requires integration of project *coordination* and *management* experiences which probably can best be gained through case studies and team studio assignments which cut across traditional community, cultural and professional boundaries.

CONCLUSION

The global transformation has generated a variety of responses in the practice of the built-environment professions, many of them favorable to humanistic development in both third world and economically advanced countries. It is now time to find the way to incorporate these elements into planning and design pedagogy in order to help students prepare themselves for the new world of the 21st century. What is progress for a given people and context? What does development mean for them? It is ironic that Western ideas of modernity and progress finally have taken root in some developing countries just when Western ideas are shifting to a different emphasis on multi-culturalism, contextualism and alternative paths to development. These current ideas sound so right and appropriate to our Western ears, just as ideas of modernity and progress did 40 and 50 years ago, but probably they do reflect a more realistic appreciation of cultural and environmental diversity than modernism ever allowed. Perhaps we are beginning to learn to keep quiet and listen to other cultures and work with them as real partners, acknowledging that all parties can benefit and learn from the common endeavor.

NOTES

[1] Korten, David C. 1990. *Getting to the 21st Century: Voluntary Action and the Global Agenda.* West Hartford, Conn.: Kumerian Press.

[2] Norgaard, Richard B. 1994. *Development Betrayed: The End of Progress and a Coevolutionary Revisioning of the Future.* London and New York: Routledge.

[3] Nyerere, Julius. 1974. *Man and Development.* London: Oxford University Press.

[4] Etzioni, Amitai. 1992. Address to national conference entitled *Vision 2000.*

[5] Ibid.

[6] Schumacher, E. 1979. *Good Work.* New York: Harper Colophon Books, 3.

[7] Martin, Richard. 1984. Poverty and Professionals: The Role of Architects in Low-Income Housing in Developing Countries, in *RIBA Journal*, July: 31-42.

[8] Robinson, Julia. 1991. Premises, Premises: Architecture as Cultural Medium, in *Type and the (Im)Possibilities of Convention.* New York: Midgard Monograph, Princeton Architectural Press, 164.

[9] Hardie, Graeme. 1989. Environmental Design Research for Developing Countries, in *Advances in Environment, Behavior, and Design, Vol. 2.* Zube & Moore (eds.), 127.

[10] McKee, Bradford. 1994. Architects as Construction Managers, in *Architecture.* December: 111-115.

[11] Black, G. & K. Pontikis. 1994. Synthesis of Twenty-First-Century Engineering with Traditional Architectural Form. Conference paper at *International Association for the Study of Traditional Environments.*

[12] Davis, H., D. Week & P. Moses. 1993. The Village Meets the City, in *Architecture + Design.* March-April: 51-57.