TEACHING ARCHITECTURE IN THE THIRD MILLENIUM

by Richard Seaton

Students entering Canadian schools of architecture in 1984 will reach their decade of prime production at the turn of the century. It is fit, therefore, to view them as potentially a new breed of professionals fit for the values and purposes of the coming third milennium.

Looking back on the history of western twentieth century architecture, a colleague recently asked his students, "So what? What positive things have the theories of the first three quarters of the century done for architecture and life in the last quarter? What negative things? Has there been any 'progress' toward a better architectural world? Have things regressed? Have they stayed the same? Most important of all: in what directions would you like the future of architecture to move?"

He reports that his students generally thought that developments in architecture over the past seventy-five years were natural and inevitable, irrespective of the 'stars' and intellectuals of the period, and no doubt would continue to do so.

In this determinist view of history, the succession of architectural styles — Beaux Arts, Art Nouveau, mannerist, cottage functionalist, Modern, Post-Modern — derives from a sort of Hegelian dialectic of thesis, antithesis, synthesis and thesis. There is nothing uniquely Canadian in these. Through 1984 and beyond, the trade winds of architectural change in Canada will continue to blow westward from Europe and northward from the United States and from the Latin nations to the south of it. These two Orwellian centres generate much of the architectural ferment which spills over the southern and eastern edges of Canada. Often it is by looking at them now that we can tell where we may be a decade hence.

Prediction of qualities of the future architect need not depend, however, solely on extrapolation. The sections to follow reaffirm the ancient model of the architect as **mediator** between groups and individuals on the one hand, and environment on the other. Now, after the 1960's and 1970's, the model is under intellectual pressures to which it will fail to respond at its peril. Thus it is likely that the time for a new thrust in architectural education — such as that achieved in 1910 by the Flexner Report on medical education in North America — is now.

Role Model I

A key premise of these notes is that the architect is a mediator — that is, she/he mediates the environment for people to us. The starting point for this view is the old 'stimulus arc' idea advanced by the gestaltists wherein an event or act is, figuratively, launched by its creator through a series of media to reach the eyes and brain of the perceiver.

This simple paradigm models aspects of traditional architectural practice. At its most elementary 'Fountainhead' level, the actor (Rand's Rouark) generates a design which is complete in its own right, regardless of its realization in construction. As the product of the architect, the design is solely his alone, it represents an extension of himself and his world view.

At a slightly more sophisticated level, the design creation achieves merit in its representation in a **medium** or setting, such as in a museum or glossy magazine, where it is placed on view for critical viewing — often for other architects to see. Inevitably, in a gestalt sense, the medium of design representation — whether as a rendering, model, photo of a completed building, laser plate, or drawings — colours viewer judgments.

The design or building is typically viewed from outside as an expressive object as noted in the Autumn 1982 edition of THE FIFTH COLUMN, "It is crucial to grasp the meaning of expression, and although it is most explicit on the exterior, it is by no means limited there." A quick look at a random selection of two dozen pages from a dozen contemporary architectural magazines confirms this; seventy-five percent showed exteriors. (Obviously, we would expect to see very few underground or bermed structures.) Further, it is as expressive **objects** that the designs are treated; only a few of the images included people who might actually see the spaces. Often buildings are photographed with their context trimmed away. The objectivity or **thingness** of the architectural event is enhanced by attention to materials for cladding colours, shadowing, structures, and detailing. To paraphrase e.e. cummings, "Things are in the saddle and ride architecture."

Finally, the simple gestalt model in Figure 1 has a **unidirectional** quality; the architect/designer is the initiator of expressive form, and the client/user is the receiver/viewer.

Role Model II

In contemporary architecture, the designer, however, is not an autonomous initiator of the design. The

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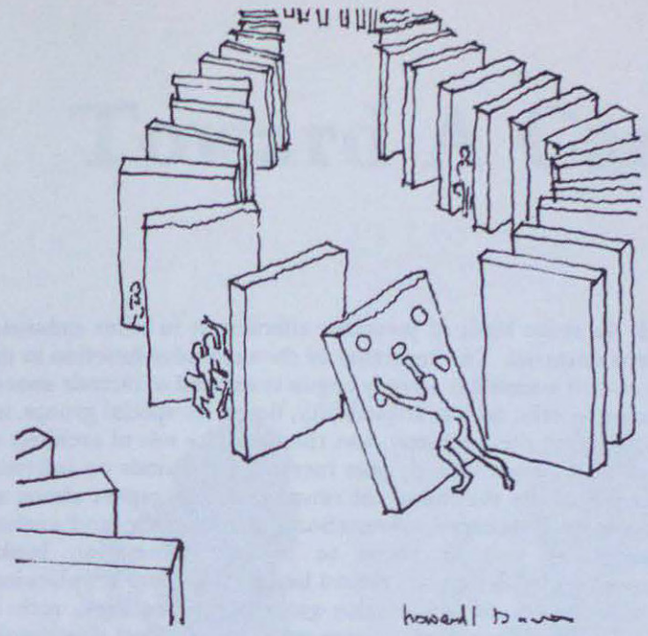

Figure 1. Architect as Initiator

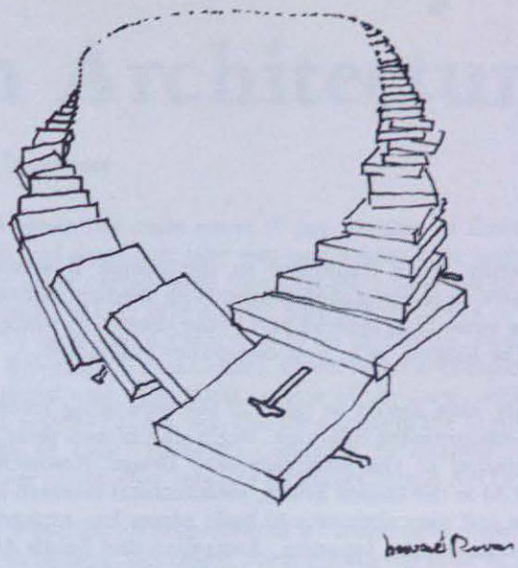

Figure 2. Architect as Mediator

physical/technical/economic environments delimit the decision space of feasible alternative edifices. Such environments also can serve as the wellspring of design, as in the beautiful forms created by Nervi. Thus the environment serves as both taskmaster and pathfinder for the architect (Figure 2).

The stimulus arc model here is more complicated, insofar as the designer herself/himself becomes a translator/mediator of the physical/technical/economic environment. Design outcomes themselves are mediated in their realization, and the built environment itself only gains its existential meaning through a gamut of further intervening, conditioning, representation and experience.

The preceding model of the architect's role no doubt suffers from excess simplicity. In particular, it largely ignores the interaction between the elements. It does have the virtue, however, of clarifying her/his pivotal role as a licensed professional, with the responsibilities in **two** directions: **toward** the environment, and **toward** the user.

The model also includes a feedback loop, wherein — based on user experience rather than merely viewer percepts — user responses become part of the design environment. In architecture, the fundamental human experience takes place in spaces, not just before facades. The success of architecture then comes to depend on space and place design rather than on massing or facade treatment *per se*. Further, the design becomes imbedded in its context; its dominant expressive function thus inevitably is conditioned by its setting and purposes. Indeed, as Ashihara emphasizes in *Exterior Design in Architecture*, facades represented in glossy magazines often could better be viewed as walls of outdoor rooms.

Thus the architect is embedded between building environment and building use. His role in Model II is that of mediator of 'man in the middle'. In Model II, the unidirectional quality of the earlier model is modified by a loop connecting user knowledge, ideas and experiences back to the design process. Such user feedbacks will in the second model inevitably subsume expressive concerns and go beyond them into other aspects of user performance and satisfaction throughout building life. It follows that as 'man in the middle', the architect/designer is in future to be subject to diverse information and varied expectations. In the future, she/he will be expected to include technical knowledge of contexts, settings, user propensities and environmental impacts in his armamentum, rather than emphasizing perceptual sophistication about scale, proportion, rhythm, symmetry or pattern.

Implications

What concerns, then, currently impinge on the architect as mediator. Any listing must be open-ended, but some we can readily include:

a) Public heritage concerns constrain and delimit the universe of design alternatives to those sympathetic with context and traditions.

b) Tools, hardware and materials of our time, impact on architectural process and expression. These include a host of developments ranging from plexiglass and thermopane, computer-aided design, the cost of oil and energy-conscious design, to new earthquake standards, computer information bases, and high tensile steels.

c) Ideation is changing too. We have 'post-modern' architecture, 'contextualism', 'design with nature'. Oscar Newman invents 'defensible space', and 'community of interest'; W.H. Whyte instructs us on 'the social life of small urban spaces'; Stan Milgram dramatizes loneliness and overload in 'the city and the self'; and Ashihara enlarges on N-space and P-space in 'exterior design in architecture'. Such ideas are gaining currency in the professional of architecture and in the architectural schools; like the golden section they are unlikely to be forgotten in future because they are partly confirmed by what scientists term 'hard evidence'. We can expects in future to see their expressions manifest in forms and spaces.

d) In a sense, the future of the profession of architecture in Canada depends on its future clients. In the past, the prototypic client was a single rich powerful individual or cabal which commanded or commissioned the architect to build. The current century brought a shift to predominantly corporate clients, whether public or private. More recently funding priorities have brought new client groups to the fore: for example, residential cooperatives, special populations (patients, children, elderly, handicapped) and heritage advocates, among others. The consensual — rather than autarchic, oligopolistic, or bureaucratic — nature of such groups implies differing kinds of communication and information between architect and client, including participatory design, incremental changes, residential satisfaction, client growth and realization of potential. These kinds of concerns in turn make ar-

chitecture more responsive to the people it serves or accommodates, in terms of their perceptions, predispositions and actions. These terms then become part of the criteria by which architecture shall be judged, as in post-occupancy evaluation.

Finally, note should be taken of the expanding knowledge base of man-environment relations. Beginning fifteen years ago with the foundation of the Environmental Design Research Association (EDRA) in the United States, architectural research in design processes and user responses to built places has expanded to all the major European, Japanese, Australian and South American centres. Thousands of articles and hundreds of books bear directly on this feedback function in the gestalt arc of Figure 2. At least half a dozen pertinent journals in English and French have gained international circulation. This massive accumulation of empirical, verifiable evidence on human responses to design, design issues and design processes inevitably must have a sharp influence on the architecture of the twenty-first century including that in Canada.

Parable

At the turn of the last century, American academic medicine was in a state of flux. Different schools advanced different philosophies; one physician termed it a "chaotic era... Beset with fads and fancies." Leeches were, in a few instances, still being imported from France to bleed patients.

The art of clinical medicine was at that time dominant in the medical schools, the pre-clinical and basic medical sciences in the first two years of professional training were taught typically on a part-time basis or in occasional lectures by clinicians as a stepping stone to the prestige of a clinical chair. Research had low status in the profession and consequently in the schools. When not intuitive, the relative merits of differing treatments were resolved by polemics or by logic unsubstantiated by the pragmatics of results. Treatment outcomes occurring months or years later had little or nothing to do with the art of practice.

Then the American Medical Association (AMA) was reorganized in the first year of the twentieth century. In the second year (1902), a committee was struck to investigate the current state of professional education and the role of the AMA in its improvement. The current state was found to be sad, with some schools having a very spotty record. In the fifth year the AMA therefore created its Council on Medical Education. This established an ideal standard for professional education and then matched the 160 medical schools into three classes: acceptable, doubtful and unacceptable. Although only half were judged acceptable, vested interests resisted upgrading of the others. In response, the AMA turned to the Carnegie Foundation for the Advancement of Teaching for consultation, with Abraham Flexner, M.D., Ph.D., assigned to the problem. Flexner's findings, largely based on the earlier AMA findings, were delineated in the Foundation's famous Bulletin no. 4, *Medical Education in the United States and Canada* (1910). This recommended upgrading of pre-professional requirements for admission to professional school, full-time teaching and research in the medical sciences, and upgrading of physical plant and laboratories. By 1915, 65 medical schools had closed for failure to meet such requirements.

Conclusion

Architecture in Canada in the third millenium will be subject to much the same kinds of pressures affecting it in other industrial western countries. The centrality of the expressive function in the peer reward system has already begun to expand to include awards on other criteria, such as habitability, fitness for special groups, ingenious use of site, economy, and the like. The role of architect as mediator/manager already puts increasing demands on information retrieval. By the end of the century, we can expect almost all firms own pre-packaged information, programming, and analysis packages, as well as access to central information banks. Computer-aided design will extend beyond computer graphics into computer-supported information-gathering procedures, such as interactive questionnaires, or gaming of hypothetical situations).

Professional training in architecture also will be much changed. New Ph.D. programmes in Architecture and Behaviour, Architectural Technology and Systems, or computer-aided design have appeared in a dozen places in the United States. In the past fifteen years, and one of these days we can expect to see the first of these in Canada. Energy-conscious design will not disappear with occasional price drops in Canada. For half a century we've recognized that our energy consumption is lunatic in terms of world resources; a generation hence, our consumption inevitably will be more proportionate to our numbers.

The last decade has marked the burgeoning of the B.E.D. Degree. The bulk of these graduates can be expected to enter into or join client groups in interface roles with architects. In this sort of role, these design-sophisticated agents will increasingly serve as advocates advancing client and user interests other than — or in addition to — those central to the traditional architectural reward system.

Despite the recent growth of man-environment research, it still is miniscule relative to other expenditure in architecture and the built environment.

In pharmacy, for examples, five percent of gross revenues go into research; three percent of food revenue are so spent; one percent of medical expenditures; one-half of one percent of building and construction expenditures; but probably only one-tenth of one percent of architecture effort is in research. This figure inevitably must change in the face of competition from alternative design-related professions.

A clear corollary of Model 2, the architect as mediator, is the resurging social involvement with urban design of exterior open spaces, their arrangements and their edges. Urban design has a long tradition in planning, but in recent years concern for it has increasingly absorbed architects. We can expect this trend to continue, in the light of the role of architect as mediator versus Formmaker.

In short, a new balance between "art and science" in architecture can be expected in the next century, congruent with role shifts, new research and knowledge retrieval, client sophistication, client participation in design, environmental (heritage, energy) concerns, and competition from related professionals.

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