RETHINKING HOUSING EDUCATION IN ARCHITECTURE SCHOOLS

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Abstract
Architects are involved in only a small percentage of all built projects and are becoming marginalized in the huge home-building industry where other professions are moving in to profit from the need for affordable housing. The vast majority of homebuyers today view housing as a commodity and are unwilling to spend more on an architect-designed house. Architects must expand the market for their services to include a far greater percentage of new buildings.

It is my contention that the new place for architects is in the design of speculative housing as expert consultant to the developer. The practice of architecture must change emphasis to consider more social and economic concerns. The attitudes and skills currently being taught in architecture schools must change to reflect the new needs of the profession. Architects must be taught behavioral psychology, demographics, and building economics to enable them to apply their knowledge to the market, thereby rendering the architect’s services indispensable to developers and the housing industry. Architectural education must play a key role in redefining the scope of the profession.

Keywords
Education, housing, speculative housing, teaching.

Introduction
A few years ago I had the pleasure of serving on the jury of the ACSA/American Wood Council Student Design Competition. The competition was entitled “HOME•EC, A Study in Affordable Housing,” and was a project for designing affordable housing in a new neighbourhood in Mission Bay, San Francisco. While many of the submissions exemplified attractive and interesting design, none addressed the key problems involved in the design of affordable housing. None of the entrants had done an analysis of the likely age and family structure of potential residents; none had explored structural or detail design with cost minimization in mind; none had used principles of options-based or adaptable housing so critical to the sector; none had presented ideas for the marketing of the proposed housing; and not one of the submissions contained any cost estimation or breakdown thereof. I should note that although the program statement instructed the participants to consider most of the above design considerations, it did not require that they be included in the design solution. What I found hard to comprehend, having studied the...
low-cost housing sector for many years, is how any solution to a program based on affordability could neglect such pivotal questions. The fact that students from across North America lack the knowledge and background to address themselves to the problems of a large portion of the building industry represents a significant failure of the educational system. In this article I intend to discuss the effects this failure to teach relevant knowledge has on the profession, and proposals for remedying the situation.

The Weight of History

As Joan Draper has noted, the first schools of architecture in North America were set up in order to professionalize the vocation: to differentiate “architects” from the draftspersons, builders, and contractors who freely used the title (Draper, 1986). The early pioneers of university architectural education saw “architecture” along the lines taught at the Ecole des Beaux-Arts: architecture as the designing of buildings which in themselves are works of art. The curriculum of the Ecole focused on programs of great public buildings, or private villas, as these were the building types for which one could expect the kind of patronage to make artistic design possible. Although not all methods of the Ecole were repeated in North America, this focus on grand programs was transplanted to the new university programs. These first roots of architectural education have had a profound impact on the development of the profession of architecture. Students today leave school believing that their purpose is to design museums, places of worship, and expensive custom houses. It is my belief that this orientation toward “prestigious,” high-profile projects is the primary factor that makes architects dispensable for most building projects. In the United States only about 25% of buildings built involve the services of an architect (Saint, 1983) and only about 10% of all houses (Gutman, 1983). Magali Larson’s examination of the architectural profession indicates that compared to such professions as medicine and law, architecture has failed to gain the same social status and high steady income. She attributes this characteristic to the failure of architects, compared to other professions, to create a dependence among their potential clientele, which she suggests is due to the existence of other occupations (civil engineers, interior designers, and speculative builders using established patterns) who compete for the same market in services (Larson, 1983).

Certainly we architects do face a widespread perception that our services are dispensable except in expensive commercial building. With respect to the services offered by most architects, this perception is not unjustified. Kenneth Frampton characterises Post-Modern architecture as large-scale packaging, where architects provide nothing more than an image with which to sell both a building and its product (Frampton, 1991). This tendency toward consumption permeates the housing industry as well. Today, buyers of new housing view their purchase in terms of a commodity, without the sentimental attachment to the “family property” of centuries past (1). Not unlike the attitudes common in the buying of automobiles, attractive packaging is only one of many factors influencing the decision to purchase a particular unit. If an architect-designed house costs 10% more than a house with comparable space and features, no amount of artistic design will endear it to the cost-conscious buyer.
Reconceptions in Architecture and Design

The current situation is very bleak indeed, a fact which has been recognized by the architectural community at large (2). It seems that to achieve a more broad and vital role, architects must expand the market for their services to include a far greater percentage of new buildings. This is not impossible; there are possibilities. There is indeed a place for architects in the design of speculative housing: that of expert consultant to the developer.

Successful developers generally have a wide knowledge of the business and practice of building. Yet at the same time the industry is notoriously slow to innovate, and virtually all developers are reluctant to be the first to try a new concept or method (3). It is my perception that developers are generally preoccupied with the economics and management of building, with product design being a secondary (though obviously still important) occupation. On the whole, developers tend to copy already successful designs believing that in this way they can minimize financial risk. However, they can be persuaded to experiment with something new if it is presented as a package that can give the product a competitive advantage. This is where the architects can make their place.

A few years ago, Witold Rybczinski and I designed a prototype affordable row-house, and solicited support from the private sector to build a demonstration model on the main campus of McGill University. Coined “The Grow Home,” the house was 14 feet wide with 1,000 square feet of living space on two floors. The unpartitioned second floor remains as a loft to be finished according to the homeowner’s priorities and resources. Market response was so enthusiastic that a total of 25 developers have, among them, built over 1,000 units in one year based on our prototype (4). I am certainly not being modest when I say that this “Grow Home” breaks no new ground in aesthetic theory or architectonic qualities. However, I do believe that its popularity is due to the fact that the design was developed based on a careful analysis of current demographic statistics and forecasts and socio-economic trends. Firstly, families today are generally smaller in size and need less space than conventional single-family dwellings provide. With the current decrease in household size and the increase of single-parent families, childless couples and empty-nesters, a whole new range of homebuyers, previously considered marginal, are interested in homeownership. Secondly, a 14-foot-wide townhouse is efficient in reducing construction and land costs, as well as energy costs in the operational phase while still maintaining comfort. With the gap between median incomes and median house prices steadily increasing, many young families are finding it impossible to consider homeownership. By being able to build these homes for between $65,000 - $95,000, the industry was able to provide a product that a large range of buyers can afford and that meets their everyday needs. This experience has taught me that architects can make themselves useful to the home-building industry - with the right approach to what “design” should be. We have the ability to acquire knowledge and to communicate with behavioural psychologists, demographers, and building economists, in addition to our design capabilities. If we integrate these skills to create a saleable package, the home-building industry will be able to use our services.
Which is not to say that the architect-expert would immediately be sought out by builders. It would take time to convince developers that any newfound interest in their sector of the market is not just a necessity of recessionary times. It would take time to build the confidence in architects personally, as we fought the widespread perceptions of flightiness that exist in the industry. And it would take a significantly different expectation among architects as to the structure of payment, and credit for their work.

This last point deserves some elaboration. Just as industrial designers are almost always anonymous, so too would be the architect practicing in speculative housing. Furthermore, the practice of collecting a percentage of the construction cost of built units would probably be replaced entirely by hourly or fixed fees for consultation. It remains to be seen whether professional ego could stomach such changes, but if these modifications were to enhance the economics of practicing architecture, they would be more palatable.

The Role of Education

As was noted before, architectural education has played the central role in defining the scope of the profession. If we are to reconceive what it means to design, and to be an architect, it follows that the system of educating architects must also change. At the heart of the reforms I propose is the assumption that as a training ground for a profession architecture schools must provide their students with the entire range of knowledge and skills necessary to practice. This assumption may seem radical to some who would argue that concentrating on such mundane issues as economics, marketing, and behavioural psychology inhibit the development of design creativity. This argument is, however, predicated on the assumption that the formal qualities of design are all that the architectural education is intended to teach, and that other skills should be learned in practice. Even if one does not accept the idea that the definition of design should be expanded to include a whole range of non-formal disciplines, the argument that other professional skills should not be taught in conjunction with design is patently ridiculous. Imagine if medicine or law schools were to operate on this principle of partial training.

We are all, of course, aware that nothing will change in architectural education if the changes are not rooted in the design studio. Here, then, are some suggestions for how the design studio might be modified to revive the profession.

• Speculative Housing Projects. Not surprisingly, non-custom housing programs are rarely assigned as design projects in schools. If we are to develop the skills of architects to function in this sector, then students should be introduced to the problems of demographic speculation, adaptability, economics, and marketing unique to such programs. What is more, by giving such assignments a place in education, we can lend them a level of prestige that might then encourage future architects to specialize in the housing field.

• Research and Writing. Part of the reason the formal aspects of architecture have become so dominant is that the bulk of a student’s time is spent on computer drawing or modeling: manipulating shapes, materials, and geometries. This effect could be easily balanced if the
graded work of a given project was half a drawn modeled physical design, and half an elaborate research paper on the social and economic design. I cannot support the view advanced by Philip Gartshore and Ian Mayfield (1990) that research can only be effectively integrated into design when it is made into a graphic exercise. If design is a social act, then it requires research in equal partnership with formal experimentation, and not subsidiary to it in any way. If we teach the meaning of design as such, we should have no problem impressing upon our students the importance of research and writing.

**Details and Cost.** The time has come to break the taboo on bringing cost into the world of academic design. In an increasingly competitive world marketplace, design strategies for controlling cost will be an increasingly important part of all architects' practice. Not learning to do it systematically is an unfair and uneven handicap that schools currently impose. Furthermore, the best design with no price attached is rarely the best design when cost is a factor. In other words, compromising a design to meet a budget results in a compromised design, while using a systematic cost-controlling approach to design from the outset would not. Such strategies require the teaching of architecture at a much smaller scale than is currently done. Working drawings, far from being a chore best left for apprenticeship, could be a forum for exploring how small variations in detail can produce wide variations in cost.

**Experts and Clients.** It is no secret that the vast majority of those who teach architectural design in North America are not familiar with the range of new design considerations I have suggested here. However, this lack of knowledge does not necessarily present a problem. Actual architectural design is an intensely social process, dealing with a whole range of people, from regulators to clients. Instead of the atelier-based system of a single design professor, one could employ a method more representative of the actual design process, whereby several specialists in different fields would contribute to the instruction of a design project, with the students having to balance their design with each teacher, and to deal with conflicting ideas and interests.

**Principles in Practice**

The Affordable Homes Master of Architecture curriculum at McGill University was developed based on the above-mentioned principles. The core activity of the program is personal research that culminates in a research report. The first two semesters consist of courses that are intended to equip the student with background material necessary to conduct his or her research and include an analysis of the economics of land and housing, cost reduction strategies, marketing strategies (i.e. working with developers) and living patterns and space requirements of different user groups. Representatives from the building and manufacturing industry as well as lenders, planners, and legislators are invited to participate in the program as speakers, critics, and seminar contributors. The second and third semesters are intended for the student to identify and elaborate a research topic selected from among the subjects that are currently under study in the department, but students are encouraged to propose new areas for investigation. In the first year, there is a design
studio which attempts to incorporate all these principles into design proposals for existing sites and to demonstrate the importance of dealing with the problem of affordability in the larger context of urban design. Publications based on the students’ proposals are then produced and made available to the private sector and other interested parties. In one such publication, the students were assigned a site in St.-Bruno-de-Montarville on the South Shore of Montreal. The students analyzed various housing options and house prices in order to increase affordability and housing density, which could potentially result in a richer and more appealing townscape than is currently available in most suburban communities. The study exposed the team both to the concerns of municipal officials and to the needs of a property developer and the constraints of an actual site. They attempted to work in as realistic a manner as possible within the framework of existing codes and regulations, real land and construction costs, and marketing requirements. In the process of the study, in addition to examining various design options, the student design team worked with municipal officials, the Mayor of St.-Bruno-de-Montarville, the City Planner and City Engineer, as well as the Vice-President of a local construction company who consulted with the project team and reviewed progress of the project at various stages. By integrating the design approach with the concerns of the “real” market, students partook in the process of designing affordable housing to achieve pleasant communities while at the same time gaining valuable insights into the concerns they would have to address to ensure the implementation of the project.

Conclusion

It is indeed ironic that the profession of architecture increasingly sees itself in skeptical terms at a time when the need for housing that deals with the rapid cultural, economic, and environmental shifts in society is so acute. Through a re-evaluation of the educational curriculum and the attitudes of the profession, a greater involvement in the housing market is attainable. Among the skills that architects must have to be indispensable to the housing industry are an understanding of marketing, behavioural psychology, and economic construction detailing, in addition to design. These subjects must be taught in the universities for them to become integrated into the overall scope of the profession. The participation of architects in speculative housing can only upgrade and improve the quality of housing available to the mass of consumers requiring affordable homes today.

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Endnotes:

(1) Family households are moving in Canada on average every 5 years. Statistics Canada, 1981.

(2) To the point that one is constantly barraged with essays and symposia on “the end of architecture,” as was the 1992 Vienna Architecture Conference.

(3) Marilyn A. Brown gave a particularly convincing presentation of this phenomenon at the May 1991 ARCC Symposium on “Building Partnerships for Technology Transfer.”
(4) We have published two internal research reports: “The Grow Home,” a design synthesis of this prototype, and a post-occupancy evaluation of several projects “Evaluation of Affordable Housing Projects Based on the Grow Home Concept,” which are both available from the McGill University School of Architecture Affordable Homes Program.

References


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