

# The Future in Architectural Education

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## THE FUTURE IN THE ARCHITECTURAL DISCIPLINE

To succeed in the future, we need to know more about how the world is likely to change.<sup>1</sup>

As the US and the world move into the 21st century and beyond, the practice and the very idea of architecture will experience dramatic changes. The population growth, the information-knowledge revolution, the changing social and cultural realities, the globalization of the economy, the arising new technologies and materials, the increasing environmental degradation-consciousness, the pressures of urbanization and migration, etc. will pose unprecedented challenges to our profession and lives (Drucker 1992, Kennedy 1993, Naisbitt & Aburdene 1990, Negroponte 1995, Toffler 1990, 1980).

Coping with the impending new reality will require a very different and unprecedented set of social, professional and personal skills than those handed down by traditional culture. These circumstances make it advisable to engage in a serious preparation for the future. Preparation here means developing a critical understanding and approach to the issues and events that will most likely impact society, architecture and ourselves in the years ahead.

This is especially true for architectural practitioners and educators as

(1) architecture is a service industry heavily dependent on the market (Cuff 1991, Gutman 1988) and therefore will be directly impacted by the (r)evolutionary changes under way.

(2) architectural practice is based on images (vision and expectations) about the future. Any act of design or planning is an attempt to concretize a (better) future based on changing the existing (i.e., inherited, past) conditions.

(3) those affected by our services (clients, students) will be conducting their personal and professional lives in the future.

In spite of these compelling arguments, discourse on the future has been poor in architecture. Despite the *Boyer Report* and a few magazine articles that have appeared in the past few years (e.g., Crosbie 1995, Gutman 1996, Kroloff 1996), the most important systematic study on the future of architecture still is the (by now out of date) AIA's 5 documents "VISION 2000" published in 1988. Although other relevant works are available (e.g., Aberley 1994, ACSA 1992, A.D. 1993, AIA 1996, Hoyt 1994, Saunders 1996, and Seiberlich 1989), these sources are by and large ignored by the profession and too few when compared to the overall intellectual production in the discipline. Furthermore, when the issues of the future are seriously considered, they are in a format that does not directly relate to the "ordinary" practice and education (e.g., Benedikt 1991, Mitchell 1995) or focuses in the very short term — less than 2 to 5 years hence (e.g. articles in journal *Practices*, Saunders 1996).<sup>2</sup>

This lack of interest or plain shortsightedness are slowly beginning to change as is demonstrated by this conference's topic and other recent meetings.<sup>3</sup> Still, these initiatives are not good enough considering the forces with which we are to wrestle.

Why does our discipline rarely offers a thoughtful, articulated analysis of what is to come? This is, to say the least, a quite remarkable fact. Two reasons may help to explain this phenomenon:

1. Design has always dealt with the future and done acceptably well without any formal theory or discussion about the future. Hence there has developed the confidence that the profession will adapt to whatever circumstances tomorrow may bring, thus making unnecessary any serious attention to it.

2. Design is by nature a "science" and "technology" of innovation and change and therefore, by giving response to the present, it actually finds its most valuable tool for dealing with the future.

In other words, the anticipatory nature of design seems to be by itself a good antidote to any type of future shock. If this has been true in the past, the magnitude and depth of change underway makes this argument not only baseless but worse, dangerously misleading. New social developments, new belief systems, new breakthroughs in technology, the environmental threat, and the mediatization of culture among others will substantially change the face of Earth and the way we think and live in the world.

The lack of formal attention to the future does not mean that architects don't think about it or have no vision of the future. Nobody can act without at least some working assumption of tomorrow. Some image of the future is necessary for any meaningful practical or theoretical enterprise. Without a future, there is no purpose in human action. So the issue is not whether or not we should think about the future (for we are) but rather how serious and critical we are about it.

We have hitherto dealt with the future very much like traditional cultures have done for millennia. We have thought of the future as a conservative extrapolation of the past. In this mindset, everything changes slowly, linearly, and predictably. This perspective encourages a strong adherence to inherited beliefs, methods, technologies, and social rules. Education means to reproduce the time honored model of the world. Teaching is the handing down of the existing knowledge to the next generation.

Unfortunately, the contemporary and particularly the future worlds do not grant "the-future-like-the-past" paradigm of forecasting. In fact, the qualitative, fast, and non-linear evolutionary leaps we are already experiencing make it clear that the future is going to surpass the wildest trend extrapolations of the present. Under these conditions, the way to prepare for the future is by revisiting and critiquing inherited knowledge so that new and more appropriate beliefs, methods, technologies, and social rules may be developed in a just-in-time or ahead-of-time basis.

The Modern Movement paid much more attention to the future of society and architecture than we have for the last 20 years. Examples abound: the writings of Wright (1963) and Le Corbusier's (1986) or the principles and visions behind movements such as the CIAM, Metabolism, and the Archigram. Although the Modern images of the future may appear today as naive if not frightening, their inquiry helped to advance our understandings of urbanism, technology, growth and many other subjects and placed architecture in a leading role in society. One could go as far as to say that the largely utopian visions advanced by Modernism changed our way of seeing human development.

Actually the Modernists didn't do that bad considering that they lacked the sophisticated forecasting tools that exist today. The fact that little or none of the breakthroughs in futures thinking occurred since then have been assimilated by our discipline is revealing. It would appear that in conjunction with the decline of the MM during the past 3 decades, architecture chose a very different way of addressing the future. During the '80s for example, the interest that architectural education (and the profession) put into semiotics, typology and post-modernism was a reflection of an image of the future built around there-establishment of a secure past. The success of the '80s conservative revolution was partially based in deleting the gloomy picture of the future built around the economic and military turmoils of the '70s and replacing it with a bright new tomorrow. The future was going to be like the "golden" post II WW years, recaptured and augmented by the technological and economic myth of infinite growth and social and cultural conservatism. The past was used to re-place (or perhaps forget) the future.

The 90's collapsed the future into a shattered and negative present. Post-structuralism questioned and ultimately de-vicegerated all projects' by making them suspicious of hidden agendas. The only thing left was the present, a present in which the preferred action was one of playful albeit aimless deconstruction. This anti-past and also anti-future perspective was not constructed out of a phenomenological claim that the present is the ultimate ground of existence. Rather (and deconstructivism made fun of any phenomenological approach) this nihilist vision was one built out of intellectual hopelessness.

The recent emergence of neo-modernism can be seen as a reaction to this state of affairs. Neo-modernism lacks much of the grand futurist vision of Modernism and instead tries to tackle present problems with a more optimistic attitude towards the future than the one exhibited by post-structuralism. Jean Nouvel is a good example of this approach, which puts in some doubts the needs for any forecasting at all. In an interview, he explains

Time doesn't interest me, only the present moment ... I do not think of my buildings as belonging to the future but as being as intelligent as possible and appealing to people's senses and feelings as effectively as is possible now. "Tomorrow" can take care of itself ... I have nothing to say about what will come after our time. I am not a clairvoyant; if you need a fortune teller you should go to the fairground.'

Nouvel's position about the future fits the designer's belief (earlier presented) that by taking care of the present we take care of the future. Needless to say that, like most of the public, Nouvel demonstrates a very poor understanding of the science of forecasting.<sup>6</sup> Yet, the fact that Nouvel's buildings are fantastic examples of cutting-edge ideas and realization points at something: Nouvel's conception of the present is not an ordinary one. He says

... the most important factor in the next phase is not the whole history of architecture but everything that is going on in the world at the precise moment when a new architecture is produced.'

In other words, the present for Nouvel is a highly alerted awareness of what is going on civilization wide. It is an understanding that comes not out of history but out of deep critical observation. In fact,

such a view can be said to be anticipatory in the sense that it extracts the essence of what is happening and tests it by projecting it as an hypothesis into the future. In that same article, he finally gets around to "confess" that

The result of all this [what is happening today] is a new notion of the whole visible reality. It should be clear that the architecture of the future will hardly be influenced at all by what we have now.<sup>8</sup>

In short, although starting with a total rejection of the very possibility of "futuring," Nouvel ends up doing exactly that by projecting his non-past based reading of the present into the future. In this way he establishes a strong conceptual framework from where he operates in the present (i.e., in Nouvel's case the concept of 'screen' and all its associations). Like everyone else Nouvel also depends on a vision of the future. One would be tempted to add that Nouvel may be able to get away with such self-denial given his obvious gift at reading contemporary culture. This unfortunately may not hold true for most of us. We may need some help at understanding what is going on and forecasting its potential unfolding.

If this short summary of how architects have looked at the future in the past few decades has any value, it is to show that none of these ways of approaching the future has worked very well. It also shows how trapped we are in following (and not questioning let alone leading) the sociocultural construction of tomorrow. The case of Nouvel and similar positions point out that we cannot avoid constructing some image of the future. The issue is whether we are aware or not.

Our discipline needs to develop a way to consciously and directly address the future. The fact that we have not done so weakens our ability to deal with what is to come. Perhaps this inability has been one of the reasons that architecture has lost out to other competing disciplines. Without realistic or critical pictures of the future we can hardly prepare ourselves for the new challenges and opportunities. As the new potential spaces of practice or thought open up others better prepared than ourselves occupy them, leaving us limited to the shrinking field of traditional practice.

## THE DESIGN PARADOX

Our little interest in dealing with the future, our own future, is really a remarkable *paradox*: the irrelevance of thinking about the future in a future oriented field. This "Design Paradox" obviously cannot and has not worked in our favor. As the role of anticipation becomes increasingly vital for responding to our fast changing civilization, "futuring" needs to be formally included within architectural practice and education.

Paying attention to the future means at least two things for architectural education:

(1) It means to look at the future of our discipline without the curriculum to inform the way we should be educating our students. This is a top-bottom approach. Certain image of the future may demand changes in our educational structure to 'produce' a particular profile of the future architect. The most clear example of this adjustment has been the incorporation of computing within the architecture schools. The top-bottom approach is conservative, reactive, slow, and does not include any action to incorporate futures thinking within the curriculum. Nevertheless, it is obviously a necessary approach.

(2) It means to look at the future of our discipline *within* the curriculum. This is a bottom-up approach not very common. Most of the discussion about the future has remained at the administrative or theoretical level and, with few exceptions, has not permeated into actual teaching. A bottom-up approach that considers and/or simulate future architectural practices and challenges may do more to point at the real future of architecture than any top-bottom approach

constructed as response to the pressing needs of the present.

The rest of the paper will explore this bottom-up approach because it is an area that remains largely unattended by academia.

### **CUTTING THROUGH FUTURE BLINDNESS : TOWARD A RESPONSIBLE CURRICULUM**

One of the glaring ironies of modern education is that schools try to prepare students to live in a time that does not yet exist by concentrating their studies on a time that has ceased to exist. Except in very cursory ways ("You'll need this course to get into college"; "You'll need this skill to get a job"), the future is rarely considered in the standard curriculum. Even "contemporary" courses deal almost exclusively with current events — which is to say events in the very recent past. The tacit assumption seems to be that tomorrow will be like yesterday or, at the very least, like today."

Future blindness is everywhere present in the architectural curriculum. Not only do we find great time allocation devoted to history but also to theory and criticism classes that are traditionally based in the past. The design studio does not do much better. Significant discourse about the future is kept out either by paying attention to contemporary theoretical and formalistic investigations (i.e., what are already 2 to 3 year old by the time they are published) or by remaining committed to old fashioned precedent-based processes. Other areas of the curriculum that may appear at first sight more conducive to futures thinking usually fail to do so as well. For example, technology classes dealing with "green architecture," "digital media" or other seemingly cutting-edge subjects are too often pre-processed courses that rarely involve any true study of the future and instead concentrate in developing applicable skills for the job market of today.

The inclusion of a "futures" component within the architectural curricula does not necessarily mean less focus or time to other subject matter. Futuring could be included within existing courses content and methods if need be. The trick is to select problems and issues that have within them the seed for engaging the future. This can be easily done in studio or lecture classes. For instance, history could include an examination of the way the future has been constructed in the past so that students understand how we architects need to address it for our challenges of tomorrow. Of course, the future may also be addressed in standing alone classes as I have done at Utah in the past few years."

Perhaps the most important gain in a curriculum that considers the future is the possibility to make students and teachers alike change their mind about the present. The perception of today can be significantly altered if we look at it with the eyes of tomorrow. What is a problem now may become an opportunity later. What is an asset today maybe a heavy burden tomorrow. Including a futuring component in the curriculum may also achieve other pedagogical objectives. For example, it may help students

1. understand the nature of change, identify the most probable futures, and clarify their philosophical, social, cultural, professional and personal implications.

2. prepare for what is to come while helping them develop a vision of their personal and professional futures.

Futuring also offers a great opportunity to improve traditionally weak areas of architectural education such as interdisciplinary inquiry, cross-cultural/social awareness, alternative practices, etc.

In addition, the need to consider the future in architecture education suggests the importance of including planning within the umbrella of architectural schools. Planning has always been an area of great suspicion or misunderstanding for architects. The important skills of planners have often been underplayed due to their "undesignerly" ways of doing and thinking. It appears now that architects, educators, and practitioners may find new uses for the

expertise that planners bring to the table. Of course, this doesn't mean a blank check to planning either. Softer and more open-ended ways of approaching problem solving and looking into the future need to be considered. But the point is that planning and for that matter landscape architecture may offer architectural schools expertise to envision the future better than the existing protocols within the traditional architectural discipline.

From an administrative perspective, bringing the future into architectural education does not imply a revolutionary but rather an evolutionary move that steers the goals, curricula, research, and service of academia towards the arising new realities. This means avoiding to uncritically follow the norm of today's practice. We need to emphasize ways of thinking and making that transcend the limitations of current technologies, methodologies, customs, and focus on how architectural ideas, methodologies, representation, etc. are informed by the arising new forms of analysis, culture, technology, etc. This means to teach how to think, how to learn, how to deal with processes and not so much with contents, for contents are just too transitory in today's (and tomorrow's) world. This is of course not a new idea. Including this type of flexible thinking and learning within a future sensitive pedagogy is definitely not part of ordinary architectural education.

Every school probably has a few faculty members that probe into this territory within their teaching. Although their actions do not result in widespread curricular changes, they provide valuable work. In fact, many of the innovative educational works often commended by the ACSA and AIA do directly or indirectly address the future within their curriculum. The problem is that all this work tends to happen in isolation and is little shared with the academic community at large (both within and without each particular school). Administrators could tap into this often seen as experimental courses to assist their schools to adopt a more proactive approach to addressing the future of our field. Conferences and publications could be designed to bring these experiences in the open so that communal learning could take place. Finally, a more systematic involvement with the science of forecasting would be highly advisable.

We can conclude with a series of general principles for future architectural education based on a seminal article written by Rittel (1986). A successful architectural curriculum should

- produce flexible professionals that are adaptable for a varying, uncertain class of future tasks. As Rittel adds "...even today's master of the art cannot be prototypes for tomorrow's architects: mastership must be paid for with a decreasing capability for relearning" (p.361);
- emphasize the use of general principles and theories as economical cognitive devices for organizing, understanding and dealing with changing knowledge. They allow adaptation under varying circumstances and help learning;
- do not only teach general rules but also rules for the changing of rules. Teach how to design a theory and how to test it" (Ibid., p.362);
- teach the "knowledge necessary to obtain the knowledge needed for a particular project" (Ibid., p.373), that is teach how to learn;
- increase the level of interdisciplinary work and thought into concrete areas of need or research; and
- fully integrate Information Technology within the curriculum.

We should add here the need for a large degree of built-in diversity. This is not supported in any politically correct ideology. Rather, and quite practically, diversity is good because it not only expands the menu of choices available to individuals and society but as importantly extends our ability to adapt to extraordinary challenges." Future architectural education should accept, encourage, and function with the signatures of different beliefs, cultures, and individuals. It should avoid trying to homogenize students, content and methods beyond what is strictly necessary for socialization and communication purposes. The architectural practice and education of tomorrow will not be based on *one* model or approach but in *many*

models and approaches. In other words, *hybridity* and *multiplicity* are the road to the future.

## CONCLUSION

...when you see an individual you should not ask what class they are from, what gender, or where they come from. But you should ask where they are going... Look at the person and what they are trying to become — a ballerina, a lawyer, a surgeon, an architect. Once you understand the future they image they have, then you understand the person. That gives them the organization principle. That gives meaning to their life, it gives them an identity, it reflects their sense of value... you can look at society and ask the same questions: where are they going?, what are they trying to achieve?, what is their vision of the future, and how does it provide a principle for organization and for meaning and for value."

It is the insecurity from our uncertainty about the future that we fear the most. Reacting to this fear we close our mind to the future or project a known image (i.e., the past) in its place. However, our impossibility to define the future should not frighten us. After all, we cannot define the past or even the present very well. What we have at our disposal are only scenarios we have constructed of how we think or believe things were or are. If we are honest, we have to recognize that most of the time we do not know for sure what is happening around us! We only think we do.

We have to come to terms that we live in an universe in continuous change. A world in which even the most unchanging thing like the past itself keeps on changing based on ever new discoveries and interpretations. Such a world demands very responsive disciplines and individuals. Futuring is an invaluable method to get us out of negative and disempowering attitudes towards the future created by our fear or, for that matter, by the post-structuralist press. We do not live at the end of history, in the chaos of post-modernity with no cultural horizon, goals, or beliefs. But neither is this a rosy and perfect time (Schwartz & Leyden 1997). The world of the future is not going to be easy, as no world in the past or the present has been. Tomorrow will be complex and difficult but also exciting and full of opportunities.

Futuring makes us realize that there is such a future and provides the tools to plan and move ahead into territories that will insure our survival if not our success. Futuring allows us to construct an informed vision of where we are going using not only our wishes, goals, beliefs, and what has worked in the past but fundamentally illuminated by what is known about the future through the science of forecasting. Without a long term vision, we are left at the mercy of daily problem solving.

Given the extra-ordinary events and challenges to come, a pedagogy with no concern for the future is unconscionable. Holding a naive or plainly uninformed image of the future will adversely influence our students' chances of personal and professional success. Thinking about to-morrow has never been more necessary than today.

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## NOTES

<sup>1</sup> Edward Cornish. "Introduction", in E. Cornish (Ed.): *Exploring Your Future* (Bethesda, Maryland: World Future Society, 1996, p p 5-6), p.5.

<sup>2</sup> An exception to this is AIA. *Changing in Construction Markets*.

The Next 15 years (Washington, DC: AIA Press 1996). However, its largely quantitative and conservative trend-extrapolation based forecasting limits its applicability.

<sup>3</sup> For example, the 1997 ACSA Western Regional Conference "Into the Millennium," the AIA's sponsored "Environmental and Economic Balance: the 21st. Century Outlook" Conference in November 1997 in Miami.

<sup>4</sup> The term "project" has a Latin root meaning to "throw forward," thus clearly suggesting an anticipatory action. A project is a model of/for the future that guides the actions of the present. "Project" is a cybernetic concept.

<sup>5</sup> Jean Nouvel, quoted in O. Bouman & R. van Toorn (Eds.) "The Invisible in Architecture", exert published as "Jean Nouvel In Conversation. Tomorrow Can Take of Itself; in A.D. *Visions for the Future* (London: Academy Editions, 1993), p. 13.

<sup>6</sup> Forecasting "can be defined as a system of quantified estimates of change and alternatives — a "prediction" (probability) of the timing, character and degree of change of the parameters or attributes associated with the design, evolution, or process of something according to a specified system of reasoning. . . [forecasting] uses a system of logic ... [that] rests upon an explicitly stated set of logical assumptions, data and relationships and therefore differs from opinion or prophesy." [Earl Joseph, *An Introduction to Forecasting Techniques* (Minneapolis, MN: Anticipatory Sciences Inc., 1988), p.2].

<sup>7</sup> Jean Nouvel, *Ibid.*, p. 13.

<sup>8</sup> *Ibid.*, p. 13.

<sup>9</sup> R. LaConte, *Teaching Tomorrow Today* (New York: Bantam Books, 1975), p. 5.

<sup>10</sup> Julio Bermudez, "Architectural Futures: Exploring Tomorrow's Architectural Practices & Thoughts"; in Georgia Bizios (Ed.): *Architectural Reading Lists and Courses Outlines, Vol. 4* (Chapel Hill, North Carolina: Eno River Press, 1998), pp. 130-141.

<sup>11</sup> This refers to Ashby's law of requisite variety. W.R. Ashby, "Variety, Constraint, and the Law of Requisite Variety"; in W. Buckley (Ed.): *Modern Systems Research for the Behavioral Scientist: A Sourcebook* (Chicago, Aldine Pub. Co, 1968). The more variety a given system has in term of its functioning, elements, and associations the more its chances of survival when pressed by radical internal or external challenges.

<sup>12</sup> Amitai Etzioni, 1988, in A.I.A. *Vision 2000/2* (Washington, DC: AIA Press, 1988), p. 9.

## REFERENCES

- Aberley, D. (Ed.) *Futures by Design: the Practice of Ecological Planning*. Philadelphia, PA: New Society Publishers, 1994.
- ACSA. *The Design Studio of the 21st. Century* (Proceedings of the 1992 ACSA West Regional Meeting). San Luis Obispo, CA: CalPoly, 1992.
- A.D. *Visions for the Future*. London: Academy Editions, 1993.
- A.I.A. *Vision 2000 Documents*. Washington, DC: AIA Press, 1988.
- Benedikt, Michael (Ed.) *Cyberspace. First Steps*. Cambridge, MA: The MIT Press, 1991.
- Boyer, E. & L. Mitgang. *Building Community: A New Future for Architecture Education and Practice*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching, 1996.
- Crosbie, M. "The Schools: How They're Failing the Profession (and What We Can Do About It)," *Progressive Architecture* (September 1995), pp. 47-51, 94 and 96.
- Cuff, Dana. *Architecture. The story of Practice*. Cambridge, MA, The MIT Press, 1991.
- Drucker, P. *The Age of Discontinuity. Guidelines to our Changing Society*. New Brunswick: Transaction Publishers, 1992.
- Gutman, Robert. "Redesigning Architecture Schools", *Architecture* (August 1996), pp. 87-89.
- Gutman, Robert. *Architectural Practice. A Critical View*. New

- Jersey, Princeton Architectural Press, 1988.
- Hoyt, C. "Design Futures," *Architectural Record* 182:10 (October 1994): 74-81
- Kennedy, P. *Preparing for the Twenty-First Century*. New York: Random House, 1993.
- Kroloff, R. "How the Profession is Failing the Schools," *Architecture* (August 1996): 92-93.
- Le Corbusier. *Towards a New Architecture*. New York: Dover, 1986.
- Mitchell, W. *City of Bits. Space, Place, and the Infobahn*. Cambridge, MA: The MIT Press, 1995.
- Naisbitt, J. & Aburdene, P. *Megatrends 2000*. New York: William Morrow & Company, 1990.
- Negroponte, N. *Being Digital*. New York: Alfred A. Knopf, 1995.
- Rittel, Horst. "Some Principles for the Design of an Educational System for Design," *Design Methods and Theories*, v.20, n.1 (1986): 359-375.
- Saunders, W.S. (Ed.) *Reflections on Architectural Practices in the Nineties*. New York: Princeton Architectural Press, 1996.
- Schwartz, Peter & Peter Leyden. "The Long Boom", in *Wired* 5-07 (1997): 115-128 and 168-173.
- Seiberlich, L. *The Future of Architecture: Product, Process, Practice, Preparation. A Public Issue*. Ann Arbor, MI: UMI Dissertation Services, 1989.
- Toffler, Alvin. *PowerShift. Knowledge, Wealth and Violence at the End of the 21st Century*. New York: Bantam Books, 1990.
- Toffler, Alvin. *The Third Wave*. New York: Bantam Books, 1980.
- Wright, Frank Lloyd. *The Future of Architecture*. Reprint. New York: Mentor, 1963.