



Session 2
Modernism and Design Education

Moderator: Professor Bruce Anderson

Teaching Urban Design Theory: Modernist, Post-Modernist, or Critical?

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Introduction

Many urban design theory courses taught in schools of architecture and urban planning tend to be modernist, as embodied in Le Corbusier's *The City of To-Morrow and its Planning*. The modernist school of thought in urban design is similar to that in modern architecture; that is, of an inexorable process born of the social and technological imperative of the age, and in which urban form was a powerful tool for the remediation of societal ills in the city. Some urban design theory courses adopt a more post-modernist stance, as embodied in Nan Ellin's *Post-Modern Urbanism*, which include movements such as neo-traditionalism and regionalism, all of them focusing heavily on issues of contextualism.

The modernist and post-modernist approaches tend to be canonical (e.g. based on the established literature of Le Corbusier, Frank Lloyd Wright, Lewis Mumford, Jane Jacobs, but without really questioning who establishes this cannon, and for what purpose?) and foundational (e.g. with a presumption that without studying projects, say from the City Beautiful movement and CIAM that one cannot somehow function as an effective urban designer). Furthermore, the focus in such studies tends to be more on the 'design' (e.g. aesthetics and architecture at an urban scale) rather than on the 'urban' (e.g. cities as sources of richness and complexity, and as ongoing processes of change) in 'urban design'.

The author approaches the teaching of urban design theory from a third perspective: a critical approach. Nurturing critical thinking in urban design involves learning to develop a sense of careful and analytical judgement, *in addition* to learning various urban design theories. Thus, the seminar is not simply intended to address the statement: "This is urban design"; rather, the course is a collective inquiry into "*What can urban design be?*", a far more challenging, stimulating, and ultimately, fulfilling, pedagogical approach that will

benefit students for the rest of their lives. Such a pedagogical approach also includes critical analysis, such as an in-depth understanding of urban design problems and promises through case studies of urban design practice and projects, and interdisciplinary learning, such as examining cities from the perspectives of architects, landscape architects, urban planners, policy makers, social workers, and business interests.

The urban design theory seminar is divided into three parts: (a) a critical analysis of an urban design theory, such as *Collage City* by Colin Rowe, *Delirious New York* by Rem Koolhaas, or *The Charter of the New Urbanism*, including examinations of hidden assumptions and controversial aspects; (b) a theoretical essay examining the urban design theory via the lens of theories of urban power (e.g. by John Rennie Short) and uneven geographical development (e.g. by David Harvey); and (c) an audio-visual presentation judging a built urban design project, such as the Olympic Village in Barcelona by Oriol Bohigas and Lluís Domènech, New Bombay in Bombay by Charles Correa, or Seaside in Florida by Andres Duany and Elizabeth Plater-Zyberk, via the lens of a selected urban design theory.

The paper examines the philosophy behind such an approach to teaching urban design theory, discusses its relevance to the practice of current and future urban designers, and evaluates the actual seminar experience, from both the professor's as well as the students' perspectives.

Background

During the past decade, we have been witnessing an urban revival. This is demonstrated by renewed interest in revitalizing inner cities; an expanding market for urban housing; the prominence of cities in popular magazines such as *Time* and *Newsweek*, and in popular television programs such as "Friends" and "Seinfeld"; a resurgence

of urban design curricula at leading educational institutions such as Berkeley and SCI-ARC; and an influx of international urban design journals including the *Journal of Urban Design*, *Urban Design International* and *Urban Design Quarterly*. Seminal books, including *The Next American Metropolis*, *Great Streets*, and *Post-Modern Urbanism*, have attracted much attention in the past decade. Several large-scale urban projects are being built, including stadiums and casinos in the city of Detroit; the new Getty Center in Los Angeles; neo-traditional residential developments all over the United States; the Docklands in London; the new airport in Hong Kong; and massive urban redevelopment in Berlin and Beirut, to name only a few.

The conventional approach to defining the field of urban design is morphological; that is, according to the way it is structured and organized. Thus, urban design is often regarded as an ambiguous combination of architecture, urban planning, landscape architecture, and civil engineering. This definition puts urban designers at odds—over power and resources—with architects, planners, landscape architects and civil engineers, and thereby dilutes the powerful role urban design can potentially play in the unfolding of cities. Furthermore, much of the recent interest in urban design repeats the familiar deficiencies of the past, such as: a focus on the superficial aesthetics and the picturesque aspects of cities; an over-emphasis on the architect as urban designer and an obsession with design; an understanding of urban design primarily as a finished product; and a pedagogical process that is comfortably rooted in architecture and design (e.g. matters of visual composition). This seminar will begin with a discussion and debate about these aspects of urban design.

One major problem with current urban design thought and practice is the sense that it is architecture, only at a larger scale and within an urban context. In this school of thought, there is far too much emphasis on the 'design', and not enough of an understanding of the 'urban'. Attempting to design a city as one designs a building is clearly misleading and dangerous, because unlike individual buildings which tend to be objects, cities are highly complex, large scale, active entities, and contain a bewildering multiplicity of communities. Few contemporary urban designers demonstrate a fundamental understanding of the complex ways in which cities function. Especially glaring is the naiveté of contemporary urban designers vis-à-vis power structures and decision-making processes, dominated as they are

by politicians, bureaucrats, corporations, developers, and interest groups. This urban design seminar is designed to adopt a critical perspective towards current urban design pedagogy and practice, and to develop an in-depth and interdisciplinary approach toward a more meaningful urban design for the future.

Objectives

In the seminar, entitled "Principles and Practice of Urban Design: Theories of Urban Design" (note the plural form of theory), students who expect a conventional survey of standard urban design theories are expected, instead, to be disappointed. Students who expected to be passive observers to entertainment in the guise of a constant stream of slides or videos, are expected, instead, to be uncomfortable. On the other hand, students who are eager to inquire into the conceptual nature of urban design are expected to be challenged. Students who are stimulated by critical thinking and provocative debate were expected to be gratified. Thus, the course is not simply intended to address the statement: "This is urban design"; rather, the course is a collective inquiry into "What can urban design be?", a far more challenging, stimulating, and ultimately, fulfilling, pedagogical approach that will benefit students for the rest of their lives. The question, "What can urban design be?", suggests a broader understanding of the purpose, and ultimately, potential, of the field of urban design. Furthermore, those students who wanted a deeper understanding of urban design are strongly encouraged to take this course in conjunction another, History of Urban Form, taught in the College by one of the leading urban historians in the country, Professor Robert Fishman.

The purpose of the seminar is to encourage the conceiving and practicing of meaningful urban design. A pedagogical approach to meaningful urban design is teleological; that is, driven by the express purpose of addressing critical urban challenges such as uncomfortable and unsafe built environments, community powerlessness, economic deprivation, and fragmented interventions. Such a pedagogical approach also includes critical analysis, such as an in-depth understanding of urban design problems and promises through case studies of urban design practice and projects, and interdisciplinary learning, such as examining cities from the perspectives of architects, landscape architects, urban planners, policy makers, social workers, and business interests. The formulation of such a pedagogical approach is catalytic, that is, consisting of urban design

strategies that include a focus on products such as public spaces and building complexes, but also the generation of long-term community, economic and international development processes.

The primary impact on this type of learning for students is an understanding of the urban designer as a catalyst. Through an in-depth analysis of urban issues, an interdisciplinary approach to urban problem-solving, and skills that focus not only on issues of urban aesthetics and form but also on purposeful intervention generated by long-term processes, students gain a profound and empowering understanding of meaningful urban design. With the study of power structures of cities and the nurturing of critical thinking skills, students gain humility (by realizing just how little power urban designers actually have) and confidence (by learning to be politically savvy in order to accomplish their goals). A secondary impact on learning for students is a unique opportunity for them to shape the future direction of urban design through readings, research, discussions, case study analyses, and project designs that will focus on specific urban challenges, examine deficiencies in current urban design approaches and projects in addressing those challenges, and formulate alternative, more meaningful, urban design strategies. In summary, a meaningful pedagogical approach to urban design—as adopted in the seminar—has the following characteristics: a) selective: focus on key urban design challenges, b) depth: develop expertise in the urban design/urban development nexus, c) cutting edge: experiment with new perspectives and a critical approach, and d) breadth: integrate with other fields, including political economy, social work, business, and environmental studies.

Seminar Readings and Requirements

Each student read three books in the seminar. Two were required for the entire class: *The Urban Order: An Introduction to Cities, Culture, and Power* by John Rennie Short (Cambridge MA: Blackwell Publishers Ltd., 1996), and *Spaces of Hope* by David Harvey (Berkeley CA: University of California Press, 2000). Please see Appendix A and Appendix B at the end of this paper for the outlines of the two books, and the types of critical urban issues (e.g. power structures, modes of productions, gender relations, uneven geographic development) discussed in each book. Each student also select, from the List of Urban Design Theories, one additional book to read, analyze and present in class (please see Appendix C).

Furthermore, in addition to the suggested urban design projects (please see Appendix D), students could select an urban design project of their choosing, with approval from the professor. The project must be of urban significance, in terms of urban scale, urban complexity, urban relationships, or urban intensity, and need not be a building—for example, it could be a street design, an open space such as a park or plaza, a campus or complex of buildings, or even a new town.

Given the interactive and collective nature of the seminar, all students are expected to come prepared—with notes, comments, and questions—to discuss each reading on the day for which it is assigned. Furthermore, the discussion of each reading was led by students, based on their understanding and summary of the reading, analysis of a selected urban design theory, illustrative examples, and a set of questions to generate a dialogue and debate in the seminar.

Reading Presentation and Discussion: Each student prepares a short presentation (maximum 10 minutes) analyzing their selected theory of urban design (please see List of Urban Design Theories to choose from) in light of the reading done for that seminar session. The presentation is structured as follows: (a) an extremely brief summary of the urban design theory being studied, highlighting key elements, (b) analysis of the urban design theory by using the issues and/or questions raised by the reading as a lens to examine the theory, and (c) 2-3 provocative questions for the class to discuss in the session. Each student also prepares a 2-page, double-sided, single-spaced handout of their presentation which included components (a), (b), and (c), as well as (d) a list of references consulted for the presentation. Students are expected to make copies of the handout for everyone else in class. Students are expected to have prepared thoroughly for both the verbal and written portions of the Reading Presentation and Discussion, by adhering strictly to time and page limits, by being focused and precise, and by being well organized. The Reading Presentation and Discussion is an integral part of our collective inquiry into the nature of urban design, and thus constituted 20% of the grade.

Theoretical Essay: Each student prepares a 5-page (maximum), single-spaced essay describing more fully the urban design theory they were studying by applying a portion of the reading from one of the two required books for the seminar: *The Urban Order: An Introduction to Cities, Culture and Power*, or *Spaces of Hope*. For example, how does that particular theory of urban design

address the issue of modes of consumption, as discussed in Chapter 5 of *The Urban Order*? Or, is that particular theory of urban design 'utopian', as described in Chapter 8 of *Spaces of Hope*? Does the theory address the relationship of Gender, Space, and Power (e.g. Chapter 14 of *The Urban Order*), or does it even need to address this relationship? Why, or why not? What hidden agendas or hidden assumptions does the theory have about the politics of urban design (e.g. Chapter 12 of *Spaces of Hope*)? The essay contains the following elements: (a) Title—what is the name of the urban design theory, and how is it being analyzed (e.g. New Urbanism and Power Relations in Cities), (b) Brief Description of Urban Design Theory—what is it called, who is the author, how old is it, what are its principal claims, and what makes it an interesting theory to study, (c) Brief Description of Issue or Question from one of the books—what is the issue, why is it important, and what might it have to say about urban design, (d) Analysis of Urban Design Theory—how does the theory address or not address the issue or question from one of the books, why or why not, what does it say about the theory—e.g. is it a powerful theory or a weak one, is it a relevant theory or an antiquated one, and so forth, (e) Concluding Insights—what you gained from such an analysis, what were some unanswered questions, what does it say about the nature of urban design theory, or how might the theory be further strengthened.

Final Presentation: Urban Design Theory / Project. The final presentation is sharp and concise 10-minute (maximum) audio-visual presentation with one primary objective: examining a built urban design project by utilizing the urban design theory studied in the previous assignments as a lens. Thus, in addition to selecting an urban design theory, each student selects an urban design project to analyze (see List of Urban Design Projects to choose from). So, for example, what are the strengths and weaknesses of the project, according to the principles of the theory? Would the theory suggest that this is a successful or successful project? How might the project have been designed in a more effective manner, if the author of the theory was designing it? Which aspects of the project correspond most strongly to the principles of the theory, and which ones do not? The presentation was organized around a few selected images of the project (in the form of color overhead transparencies, slides, an excerpt from a video or film, web images presented via PowerPoint, or any other format appropriate for a short presentation). The

presentation is organized as follows: (a) extremely brief—2 minutes maximum—summary of urban design theory, focusing on key elements, (b) extremely brief—1 minute maximum—description of urban design project, including name, type of project, location, name of urban designer, year built, and why you feel this particular project is interesting or important, (c) analysis of project via the lens of the theory, as described above, for 5 minutes maximum, and (d) conclusions—3 minutes maximum—including insights gained, lessons learnt, and ideas generated in the relationship between the theory and the project. In addition, each student provided a 1 or 2 page (maximum) handout of the outline of his or her presentation (including a bibliography) to the entire class before their presentation. The Final Presentation is concerned with not only analyzing the relationship between urban design theories and urban design projects, but also with communicating the nature of that relationship in a highly effective audio-visual manner.

The Cities Prize: The seminar expects to generate amongst students—and future urban designers—a passionate interest, a profound understanding, and a long-term engagement with cities, their form, and their experience. Towards this end, The Cities Prize is awarded to that student who demonstrates the greatest compassion and the deepest commitment to the betterment of cities throughout the semester. Based on each student's grasp of readings and lectures, quality of contribution to seminar discussion, and distinct quality of the in-class presentation, the class as a whole nominates and elects one student to receive The Cities Prize at the end of the semester. Nomination and election will occur via a 1-page, single-spaced essay, to be written by each student with authorship accredited, identifying a student best deserving of The Cities Prize and a brief explanation of the reasons for which he or she should receive it. The objective of the Cities Prize Nomination Essay is to recognize the contribution of one's fellow classmates to one's learning and growth, and to recognize the different forms that compassion and commitment towards cities takes.

Student Reflections

An integral part of cultivating the critical approach to urban design is to have a belief and a passion for it, rather than merely an academic interest. I have long questioned conventional—whether modernist or post-modernist—theories and practices in urban design, whether while pursuing my master's degree in urban

design or practicing professionally as an urban designer. Similarly, when I live, work in, or visit cities, I reflect at multiple levels—perceptual, visceral, intellectual, and even spiritual—on the urban design projects I witness. Such constant questioning and a passion for cities deeply imbue my pedagogical approach to urban design theory. The students appear to appreciate these qualities. For example, in the course evaluation of the seminar, the students ranked the following the items the highest in the scale: “The instructor appeared to have a thorough knowledge of the subject” (4.92 median score out of a possible 5), and “The instructor was enthusiastic” (4.90 median score out of a possible 5).

Such appreciation was further highlighted by more specific comments such as “Overall I appreciated Aseem’s passion and commitment”, and “I feel and know that Prof. Inam has a great deal of knowledge” Of course, it is not enough simply to have passion and commitment, but to channel those qualities into pedagogically constructive structures, which the students also recognized: “I feel that this course was well planned and thought out”, and “The readings were superb, the work interesting”. Some students recognized that skills of collective inquiry and critical thinking could be applied to other fields apart from urban design, such as architecture, landscape architecture, and urban planning: “Overall, this is one of the best course I have taken . . . [because i]t stretched my mind in ways the other courses have not.”

However, the seminar was not entirely an unmitigated success, at least from the students’ perspective. Clearly, the students did not always appreciate the extraordinary effort required in not only learning about the content of various contemporary urban design theories, but also ultimately developing a critical and sophisticated understanding of urban design theory and its role in practice. I had especially emphasized taking individual responsibility and individual initiative in the nurturing of such abilities. In the course evaluations, the students ranked the following items relatively low on the scale: “The instructor was sensitive to student difficulty with course work” (4.36 median score out of a possible 5), and “The amount of work required was appropriate for the credit received” (4.32 median score out of a possible 5). Such low-ranking items point to the need for greater intervention and support from the instructor, especially when conventions are being challenged and individual thought, rather than the ‘group-think’, is encouraged in urban design.

Students pointed out a number of weaknesses in the seminar, and offered constructive suggestions as well. One suggestion was to have students examine one single urban design project through multiple theories or lenses to understand how different ways of thinking about urban design focus on different aspects. The need for greater instructor intervention in the discussion format was reflected in comments such as: “The comments [the instructor] has made were very insightful and made me think differently. Because of that I did wish to hear a little more of his reaction and thoughts behind the projects and theories presented in class.”, and “[I]t would have been wonderful to have heard more of Prof. Inam’s perspectives, experiences, and analysis of different theories, projects”

Understandably, few students recognized the white, male, Euro-centric nature of urban design theory, whether it is modernist or post-modernist. I did bring it up in the seminar, and less than a handful of students responded: “The only other thing is to include more women and non-western folks into theories and more specifically the projects.” Similarly, “[o]ne major problem I had, though, was the lack of representation by women in the both the list of projects and the list of theories How are we as women supposed to get inspired to become great urban designers if we are not presented with any evidence that this is possible?”. In fact, in the syllabus, I had included the work of non-Westerners such as Charles Correa, Besim Hakim, Raj Rewal, Geoffrey Bawa, and Rasem Badran, as well as the work of women such as Nan Ellin, Denise Scott Brown, Elizabeth Plater-Zyberk, Zaha Hadid, Dolores Hayden, and Margaret Crawford (see Appendix C and D), but most published theoretical work and documented built projects continue to be dominated by white, male, Euro-centrists.

Faculty Reflections

In closing, I would like to reflect upon the intentions and outcomes of the urban design theory seminar. I have long questioned conventional—whether modernist or post-modernist—approaches to urban design, especially those that assume a rigid cannon (e.g. based on the work of Ebenezer Howard, Frederick Law Olmstead, Daniel Burnham or modernist icons such as Le Corbusier and Frank Lloyd Wright) and a foundational notion of ‘progress’ (e.g. based on the quasi-sacred status accorded to ‘tradition’). Instead, I adopt a critical approach based on developing abilities in future urban designers to nurture a sophisticated sense of judgement

about the strengths and weaknesses of theories, to be exposed to a vast array of thinking about urban design, and to harness the power of theory for reflective practice.

Such thoughts manifest themselves in a pedagogical methodology that includes an understanding of critical urban issues, as discussed in books such as *The Urban Order* and *Spaces of Hope*. These readings and discussions enable students to place issues of urban form with the larger issues of urban political-economy and decision-making processes. Furthermore, the more than 30 theoretical books I suggest (please see Appendix C) promotes the sense that there is no single urban design theory which is more significant than others. Rather, each theoretical stance toward urban design needs to be approached on its own terms, as well as within the large context of critical urban issues, as embodied in the student assignments of the reading presentation and discussion, and the theoretical essay (please see descriptions further above). The notion of the collective inquiry was translated into an interactive, seminar format, rather than the conventional slide-lecture format, via student presentations and student-led discussions, which was sometimes a challenge given the popularity and size (e.g. 35 students last year) of the class. The handouts at each presentation were intended to serve as a series of introductions and references to specific urban design theories and projects for students to accumulate and utilize as their curiosity was piqued.

In the final analysis, I was quite pleased with the intellectually rigorous, inquiring, and interactive nature of the seminar. I learnt much from the students (after all, isn't that what teaching ultimately about?), questioned my own assumptions, and further confirmed my belief that urban designers can be powerful thinkers, and thus, more effective practitioners. For the upcoming academic year, I have modified the seminar to take into account student reflections. I have discontinued using the book *Spaces of Hope* by David Harvey because some students found it to be too difficult to understand and others were unable to look past its Marxist leanings. There will now be more time for each student presentation as well as for discussion. Finally, in response to student requests, I will offer a number of slide-lectures from time to time, though they will continue to be secondary to the main purpose of the seminar: for *students* to think critically, communicate articulately, and understand the powerful potential of urban design.

Appendix A: Outline of Book: *The Urban Order: An Introduction to Cities, Culture and Power*

- Chapter 1: Introduction
- Part I: The City and Economy
- Chapter 2: Cities and Economic Development
- Chapter 3: The Urbanization of the Economy
- Chapter 4: The City and the Global Economy
- Chapter 5: The Political Economy of Urbanization
- Chapter 6: Capital, Labor, and the City: Case Study I, Part 1
- Chapter 7: Capital, Labor, and the City: Case Study I, Part 2
- Chapter 8: Yuppies, Yuffies, and the New Urban Order: Case Study II
- Part II: The City and Society
- Chapter 9: The Housing Market
- Chapter 10: The Social Arena
- Chapter 11: Life in the City
- Chapter 12: The Political Arena
- Chapter 13: Residential Mobility in the City: Case Study III
- Chapter 14: Gender, Space, and Power: Case Study IV
- Chapter 15: Race, Ethnicity, and the City: Case Study V
- Part III: The Production of the City
- Chapter 16: City as Investment
- Chapter 17: City as Text
- Chapter 18: City Images
- Chapter 19: Reconstructing the Image of a City: Case Study VI
- Chapter 20: Conflict and Compromise in the Built Environment: Case Study VII
- Chapter 21: Postscript: Barcelona
- Concluding Comments

Appendix B: Outline of Book: *Spaces of Hope*

- Introduction
- Chapter 1: The difference a generation makes
- Part 1: Uneven geographical developments
- Chapter 2: The geography of the Manifesto
- Chapter 3: 'Working Men of All Countries, Unite!'
- Chapter 4: Contemporary globalization
- Chapter 5: Uneven geographical developments and universal rights
- Part 2: On bodies and political persons in global space
- Chapter 6: The body as an accumulation strategy
- Chapter 7: Body politics and the struggle for a living wage
- Part 3: The Utopian moment
- Chapter 8: The spaces of Utopia
- Chapter 9: Dialectical utopianism
- Part 4: Conversations on the plurality of alternatives
- Chapter 10: On architects, bees, and 'species being'
- Chapter 11: Responsibilities towards nature and human nature
- Chapter 12: The insurgent architect at work
- Appendix: Edilia, or 'Make of it what you will'

Appendix C: List of Urban Design Theories

- Alexander, Christopher. 1987. *A New Theory of Urban Design*. New York: Oxford University Press.
- Bell, Michael and Sze Tsung Leong, editors. 1998. *Slow Space*. New York: Monacelli Press.
- Banham, Reyner. 1973. *Los Angeles: The Architecture of the Four Ecologies*. Harmondsworth, England: Penguin Books.

- Calthorpe, Peter. 1993. *The Next American Metropolis: Ecology, Communities, and the American Dream*. New York: Princeton Architectural Press.
- Chase, John, Margaret Crawford, and John Kaliski, editors. 1999. *Everyday Urbanism*. New York: Monacelli Press.
- Correa, Charles. 1989. *The New Landscape: Urbanisation in the Third World*. Seven Oaks: Butterworth Architecture.
- Duany, Andres, Elizabeth Plater-Zyberk, and Jeff Speck. 2000. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press.
- Ellin, Nan. 1999. *Postmodern Urbanism*. New York: Princeton Architectural Press.
- Hakim, Besim. 1986. *Arabic-Islamic Cities: Building and Planning Principles*. London and New York: Routledge and Kegan Paul.
- Hayden, Dolores. 1995. *The Power of Place: Urban Landscapes as Public History*. Cambridge MA: The MIT Press.
- King, Anthony. 1976. *Colonial Urban Development: Culture, Social Power, and Environment*. London and Boston: Routledge and Kegan Paul.
- Koolhaas, Rem. 1978. *Delirious New York: A Retroactive Manifesto for Manhattan*. New York: Oxford University Press.
- Koolhaas, Rem. 1995. *Small, Medium, Large, Extra-Large*. Rotterdam: 010 Publishers; New York: Monacelli Press.
- Koolhaas, Rem, Stefano Boeri, Sanfor Kwinter et al. 2000. *Mutations*. Barcelona: ACTAR; Bordeaux, France: Arc en Reve Centre d'Architecture.
- Leccese, Michael and Kathleen McCormick. 2000. *Charter of the New Urbanism*. New York: McGraw Hill.
- Lerup, Lars. 2000. *After the City*. Cambridge MA: The MIT Press.
- Lynch, Kevin. 1960. *The Image of the City*. Cambridge MA: The MIT Press.
- Lynch, Kevin. 1981. *A Theory of Good City Form*. Cambridge MA: The MIT Press.
- Maas, Winy. 1999. *Metacity Datatown*. Rotterdam: MVRDV / 010 Publishers.
- Mitchell, William J. 1995. *City of Bits: Space, Place, and the Infobahn*. Cambridge MA: The MIT Press.
- Mitchell, William J. 1999. *E-topia: Urban Life, Jim—but Not As We Know It*. New York: Van Nostrand Reinhold.
- Pope, Albert. 1996. *Ladders*. New York: Princeton Architectural Press.
- Rowe, Colin and Fred Koetter. 1978. *Collage City*. Cambridge MA: The MIT Press.
- Rowe, Peter. 1991. *Making a Middle Landscape*. Cambridge MA: The MIT Press.
- Rowe, Peter. 1997. *Civic Realism*. Cambridge MA: The MIT Press.
- Sadler, Simon. 1998. *The Situationist City*. Cambridge MA: The MIT Press.
- Scott Brown, Denise. 1990. *Urban Concepts*. London: Academy Editions.
- Tschumi, Bernard. 1994. *Event-Cities: Praxis*. Cambridge MA: The MIT Press.
- Tschumi, Bernard. 2000. *Event-Cities 2*. Cambridge MA: The MIT Press.
- Van der Ryn, Sim and Stuart Cowan. 1996. *Ecological Design*. Washington DC: Island Press.
- Venturi, Robert, Denise Scott Brown, and Steven Izenour. 1977. *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*. Cambridge MA: The MIT Press.


Appendix D: List of Possible Urban Design Projects for Analysis via the Lens of Theory

- 333 Wacker Drive, Chicago, USA. by Kohn Pederson Fox. 1979-1983.
- Asian Games Village, New Delhi, India. by Raj Rewal. 1982.
- Bibliothèque Nationale de France, Paris, France. by Dominique Perrault. 1996.
- Canal City Hakata, Fukuoka, Japan. by Jon Jerde. 1996.
- Carre d'Art, Nimes, France. by Norman Foster. 1985-1993.
- Centre Georges Pompidou, Paris, France. by Richard Rogers and Renzo Piano. 1971-1977.
- Cite de la Musique, La Villette, Paris, France. by Christian de Portzamparc. 1985-1995.
- City Walk, Universal Studios, Los Angeles, USA. by Jon Jerde. 1994.
- Cour d'Angle, Saint-Denis, near Paris, France. by Henri Ciriani. 1978-1983.
- Edgemar Development, Santa Monica, near Los Angeles, USA. by Frank Gehry. 1987.
- El Alamillo Bridge, Expo '92, Seville, Spain. by Santiago Calatrava. 1992.
- Evry Cathedral, near Paris, France. by Mario Botta. 1995.
- Freemont Street Experience, Las Vegas, USA. by Jon Jerde. 1995.
- Gas Company Tower, Los Angeles, USA. by Skidmore, Owings, and Merrill. 1992.
- Getty Center, Los Angeles, USA. by Richard Meier. 1984-1997.
- Grand Palais, Lille, France. by Rem Koolhaas. 1990-1994.
- Guggenheim Museum, Bilbao, Spain. by Frank Gehry. 1991-1997.
- Hajj Airport Terminal, Jeddah, Saudi Arabia. By Skidmore, Owings and Merrill. 1980.
- Horton Plaza, San Diego, USA. by Jon Jerde. 1985.
- Institut du Monde Arabe, Paris, France. by Jean Nouvel. 1987.
- Jewish Museum Extension to the Berlin Museum, Berlin, Germany. by Daniel Libeskind. 1989-1997.
- Kunsthall, Rotterdam, Netherlands. by Rem Koolhaas. 1987-1992.
- Museum of Archaeology, Arles, France. by Henri Ciriani. 1984-1992.
- National Museum of Roman Art, Merida, Spain. by Rafael Moneo. 1980-1986.
- Nelson First Arts Center, Arizona State University, Tempe, Arizona, USA. by Antoine Predock. 1989.
- Netherlands Architecture Institute, Rotterdam, Netherlands. by Jo Coenen. 1988-1993.
- Netherlands Dance Theatre, The Hague, Netherlands. by Rem Koolhaas. 1984-1987.
- Neue Staatsgalerie, Stuttgart, Germany. by James Stirling and Michael Wilford. 1984.
- New Bombay, Mumbai, India. by Charles Correa. 1971-1974.
- New York New York Casino Complex, Las Vegas, USA. by Gaskin and Bezanski, with Yates and Silverman. 1997.
- Olympic Village, Barcelona, Spain. by Oriol Bohigas and Lluís Domenech. 1988-1992.
- Parc de la Villette, Paris, France. by Bernard Tschumi. 1984-1990.

Parliament Building, Colombo, Sri Lanka. by Geoffrey Bawa. 1983.
Pershing Square, Los Angeles, USA. by Ricardo Legorreta. 1994.
Phoenix Central Library, Phoenix, USA. by Will Bruder. 1988-1995.
Qasr Al Hokm Justice Palace, Riyadh, Saudi Arabia. by Rasem
Badran. 1992.
Seaside, Florida, USA. by Andres Duany and Elizabeth Plater-
Zyberk. 1983.
The Atlantis, Miami, Florida, USA. by Arquitectonica. 1982.
Tokyo International Forum, Tokyo, Japan. by Rafael Vinoly. 1990-
1996.
Vitra Fire Station, Weil-am-Rhine, Germany. by Zaha Hadid. 1990-
1993.
Waterloo International Terminal, London, UK. by Nicholas
Grimshaw. 1993.
Wexner Center for the Visual Arts, Columbus, Ohio, USA. by Peter
Eisenman. 1989.

Modernizing Anew: A Reconsideration of Design and Human Behavior

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Marge Piercy suggests, in her futuristic novel *Woman On the Edge of Time* (1976), that one of two opposite worlds could emerge from modernity. In one of these, a woman is trapped in a cell within a stark, hierarchical skyscraper architecture violently established for the benefit of a totalitarian, industrial, consumer capitalism. She is permanently linked to and forced, by her architectural situation, to watch a malfunctioning television screen; windows provide mere simulations of the outside world. She behaves as though insane.

A beautiful world is the alternative to this hell, born into existence by the courageous struggle of the novel's protagonist, Consuelo (Connie) Ramos. Here, modern architecture supports human happiness and creative potential. Womb-like membrane structures glow in the balmy dusk, forming a pedestrian village nestled in endless woodlands, housing a loving and supportive tribe of humans. The tribe's healthy, kind, respectful, creative, and intelligent people act on their own free will.

Piercy's two opposite visions reflect the fundamental premise of the design and human behavior idea. In both visions, architectural quality is synonymous with the realization or destruction of human potential. Rejecting the bad and embracing the good- the second vision- can come about, as it does at the hands of Connie, only through radical dedication to social progress. Changing the world for the better, holding on to social hope, is a matter of finding the architectural form that supports healthy human behavior. The origins of this idea can be traced to the Cold War era, with its pronounced emphasis on opposite categories and enemies.¹

This paper considers popular and academic expressions of the design and human behavior idea in the post-World War II era. Psychology studies, prominent cultural critics of the 1950s, and the then-celebrated Richard Neutra, among others, all helped to popularize notions about the social scientific investigation of the

relationship between people and places. In the universities and the profession of the 1960s and 1970s, ideas about design and human behavior expanded dramatically. Together, the intertwined popular and academic manifestations of design and human behavior in the post-World War II era have served unintentionally to reinforce the progressive principles of modernism up to the present moment.

Beginnings: the *Building for Modern Man* Symposium, 1947

After World War II the design and human behavior idea, although not entirely new, gained a sense of urgency and a new vocabulary. Carried along by technological enthusiasm and scientific fervor, behavioral scientists and architects sought to improve the cities and suburbs for a society modernizing anew. Believing that the bomb had saved the world by ending the war, this society pursued plastics, chemical agriculture, television, and a host of other inventions and investigations to improve the world and advance the cause of democracy and freedom. Few academic disciplines were immune from the increase of scientism and technological application. In architecture and planning, leading practitioners articulated the idea of the impact of the environment on human beings at the 1947 Princeton University symposium, *Building For Modern Man*.² That same year Roger G. Barker and Herbert F. Wright established the Midwest Psychological Field Station in Kansas to study American social behavior in an actual built environment.³ Building on psychological science deployed during the war, the National Mental Health Act of 1946 made official the use of psychology for the maintenance of the mental health of the average American.⁴ These parallel moves within disciplines and by government, manifested as a prescriptive discussion in architecture and a more assertive scientific investigation in the behavioral

sciences, were intended to serve the needs of a rapidly expanding society.

Thomas H. Creighton, editor of *Progressive Architecture*, edited the papers from the *Building For Modern Man* symposium. Creighton claimed the speakers had made, “as complete a statement of the position of architecture in the middle of the twentieth century as the practicing and criticizing profession can make for itself.”⁵ Included were giant figures: Walter Gropius, Frank Lloyd Wright, and Richard Neutra, as well as distinguished scholars and academicians Gyorgy Kepes, Joseph Hudnut, Sigfried Giedion, Henry Kamphoefner, Talbot Hamlin, and William W. Wurster. Many of the participants discussed the need for and uses of research.

Pursuing scientific research in architecture and planning suggested to some the beginning of an era. Creighton quoted Lawrence Kocher as “put[ting] his finger on the sort of research that most of the discussants were thinking of”:

Research is the foundation for the development of new solutions—not alone for materials, but for living, for planning, for social relationships. This research should be a coordinated endeavor of the architect, the town planner, the engineer, the specialists in biology, sociology, psychology, and so on.⁶

In Creighton’s estimation, the period clearly ending was marked by “the practice of eclecticism” of form; the period just beginning would embody “a new philosophy of form.” The new philosophy represented increasing commitment to science, industrial processes, a “humanistic basis for all planning,” and a “new esthetic. . . based on physiological and psychological grounds.”⁷ The symposium discussion emphasized the growing importance of psychological and behavioral study as a foundation for solving problems of pre-fabrication, planning, and architectural design.

A particularly characteristic debate, which Creighton wrote about in both the conference volume and in *Progressive Architecture*, stemmed from Adelbert Ames’ presentation, “Architectural Form and Visual Sensations.” The Ames experiments demonstrated the now commonplace idea that perception is based on the interpretation of sensation through prior experience. Creighton contextualized the debate:

this particular group discussion . . . moves the consideration of form from the vague place it has had in the design of usable shelter to its proper position as a source of physical sensations which have a strong effect on men’s lives. There it can be studied, scientifically. There it can be discussed on rational, rather than emotional, terms.⁸

Creighton summarized the Ames debate in the December 1947 issue of *Progressive Architecture*, putting the debate in terms of the progressive possibilities for architecture. American social problems could be solved and society advanced through the right kind of beauty:

there is action which results from the visual experience. . . the buildings and the cities which we design can lead to purposeful action and can help destroy— or prevent— the fear and prejudice that come through a lack of surety.⁹

The Ames research, in other words, suggested how the visual perception of form operates and how to encode in buildings the Cold War era appetite for individual self-improvement and “purposeful action.”

Of the whole range of questions and approaches that eventually would be taken up by environment-behavior researchers, the Ames experiments in visual perception represented the most extreme scientism to many interested in architecture. The experiments were understood as an effort to understand the science of perception to such a degree that psychological reactions to visual forms could be anticipated and the viewer manipulated.

A reader responding to the Ames experiments in a letter to the editor of *Progressive Architecture* (January 1948), objected to the idea that art could be so easily explained in terms of visual perception. “The value of mystery and drama does not depend on a sense of security. . . . Where is the ‘sense of surety’ in Picasso’s ‘Guernica’?,” he asked. This reader wished to preserve the mysteries of artistic creation and reject the reductions of science. The role of science would need to be subservient and serve “a humanistic approach to architecture,” but never rise to the level of “an esthetic creed.”¹⁰

The *Building for Modern Man* symposium contained both sides of the contest between the humanists and the scientists that would emerge again and again in

debates about design and human behavior. For example, in his symposium presentation, "Programming: A Creative Act," Richard Neutra called for more attention and funds to be lavished on the preliminary phases of design. Drawing from Freud, he invoked a psychoanalytic, even psychosexual, vocabulary and he championed creative genius. He rejected the "fact-finding-farce" that confines the scope of any design ability and under all its dead weight is barren, without a spark of creative stimulation." His vision of programming as a creative act centered around the idea that "there is a physiological brain mechanism that seems automatically to link programming and design . . ." ¹¹ He suggested that science might uncover the mystery of how the mind creates marvelous visions in answer to problems which have not yet been rationally investigated. The *Building for Modern Man* symposium was significant for the design and human behavior idea because it called for more research and greater understanding of individual and social psychology.

The Popularization of the Design and Human Behavior Idea

The Social Critics of the 1950s

In the twenty years after World War II, the United States experienced enormous social change. Now a world superpower, its people emerged from the war affluent, socially and geographically mobile, increasingly familiar with television, increasingly homogenized, with old patterns of race relations dramatically altered. Far more ethnically diverse before the war, homogenization became the principal lightning rod for social critics in the 1950s. These public intellectuals, exemplified by David Riesman, John Kenneth Galbraith, C. Wright Mills, William H. Whyte and others, focused their attacks on the corporation and suburbanization. As symptom and metaphor, the corporation and the suburb represented troubling change, inviting unprecedented criticism.

David Riesman's *The Lonely Crowd: A Study of the Changing American Character*, which was first published in 1950 and sold well for 20 years, explored the problem of "other-directed" people, as distinguished from both "tradition-directed" and "inner-directed" people. This new character type, devoid of a sense of tradition or moral duty, was free to wander, and looked mostly to peers for guidance on behavior. "Other-directed" people, according to Riesman's diagnosis, were not really free

because they followed the media like sheep to learn how and what to consume. Riesman's analysis, which by political necessity of the time had to avoid sounding Marxist, nevertheless addressed power and class and described a transition from an economics of craft and labor to the manipulations of salesmanship. ¹²

A utopian society, in Riesman's view, would easily find "failure in play is a psychic hardship of the most intolerable sort." ¹³ Competence, expressed through the advanced forms of play such as sports and hobbies, but also through all-pervasive consumership, allowed an individual to negotiate the demands of his society. The "autonomous" character type, preferable to the merely "adjusted" or the "anomic" person, was the type most likely to find a healthy way out of conformity. Through developing competence in his autonomy, perhaps with the help of an "avocational counselor," the beleaguered suburbanite might learn to modify his crowd behavior; developing autonomy offered a way out of the rat race.

The avocational counselor, Riesman pointed out, was already a feature of the consumer-cultural landscape:

[I]t is not a question of shall we or shall we not have avocational counselors. They are already here, all around us. In the field of craftsmanship and taste exchanging, and in other fields of monopoly and veto-group pressure, we have seen that the private planners are energetically at work. ¹⁴

Travel agents, hotel and resort directors, sports teachers and coaches, teachers of all of the arts, interior decorators, architects, city planners, journals such as *Harper's*, *Atlantic*, *Life*, and *The New Yorker*, waiters, salespeople of automobiles, fish flies, and golf clubs: all potentially filled the role of the avocational counselor. ¹⁵

The domestic architect for the upper-middle-class client, Riesman offered, exemplified the ideal avocational counselor. Just as Riesman predicted the explosive growth in specialty retailing that is now the dominant feature of our culture, he also predicted a host of developments in the uses to which the single-family residence would be put. The wet bar, shuffleboard lane, craft room, the built in grill, and the "rec room" all rose in popularity in the 1950s, allowing families to keep up with neighbors and paradoxically to define differences. But more significantly, such features were loci for therapeutic leisure activities. The design of the home as a place for self-improvement and self-therapy, discussed

in sociological terms by Riesman, reflected a broadening and deepening devotion to personal psychology.

William H. Whyte also helped to develop the American commitment to sociology and personal psychology through widely read articles and books such as *The Organization Man* (1956). In "How the New Suburbia Socializes" (*Fortune*, August 1953), Whyte engagingly explored the complex web of social interactions in Park Forest, Illinois, complete with comic diagrams and photographs. Rejecting the thought that the new suburbs were a deviation outside mainstream American life, he instead explained them as "a response to some new facts," and predicted their dominance in the landscape of the near future. He called the new suburbia the "second melting pot," the site of the formation of new dominant values in America.

Exploring both the "homes-for-sale 'superblocks'" and the rental courts, Whyte argued that location and physical layout related to friendship formation. Play areas for children, both planned and unplanned, influenced who got to know whom, as did the physical location of driveways and stoops, front lawns, and the position of the house on the street. With characteristic good humor, Whyte outlined the rules of physical layout influencing the formation of small social groups, and he demonstrated the complexity of the interaction stemming from these rules. Expressing sympathy for the social deviates, and exposing the tyranny of the social leaders, he showed how imaginary boundaries were built up between members of different social groups.

Whyte claimed social relationships, including the most intimate friendships, seemed predetermined, but also that people fully understood this to be true. He regarded this change in American attitudes as significant, although he obviously did not find it as alarming as America's newly overwhelming conformity:

Once people hated to concede that their behavior was determined by anything except their own free will. Not so with the new suburbanites; they are fully aware of the all-pervading power of the environment over them. . . . with the increasing lay curiosity about psychology, psychiatry, and sociology, they discuss their social life in surprisingly clinical terms. But they have no sense of Plight; this, they seem to say, is the way things are, and the trick is not to fight it but to understand it.¹⁶

Echoing Riesman's concern for the adjusted, the anomic, and the autonomus, and deploring the loss of the public street formed by a democracy of casual agreement, Whyte sardonically speculated on the possibility of designing the ideal suburban situation, "an optimum 'happy' block."

Whyte pointed out that those who did not thrive in this kaffeeklatsching and socializing, "those who can't make the grade," were doomed to misery. He also wondered and worried over the discounting of the contributions of more important civic leadership activities than those promoted by the social leaders.¹⁷ Reiterating Riesman, Whyte suggested the deviates and the autonomous might yearn to avoid the group in favor of more fulfilling activities. Whyte, keenly observant and attuned to suburban anxieties, simultaneously made use of and popularized social scientific ideas about human behavior.

People responded to the ideas of social critics such as Whyte and Riesman because they provided accessible, up-to-the-minute social analysis regarding topics of intense interest: self-improvement and psychological betterment. Americans engaged in increasing individualism connected deeply with the idea that the single-family home might provide an arena for the psychological self. That science and technology, through sociology and psychology, were working on the larger questions of how people get along in the physical setting provided comfort and legitimacy for the self-improvement quest. The American who pursued self-improvement through the likes of Norman Vincent Peale and Kurt Lewin found psychological science and suburban home to be an intoxicating combination.

Richard Neutra, Domestic Architecture, and Psychoanalysis

Richard Neutra gave further credence and celebrity status to the conflation of the psychological self and the modern home. Some recent scholarship on Neutra by Sylvia Lavin has established new connections between Neutra's domestic architecture and psychoanalysis. Lavin points out that Neutra knew Freud and his followers, spent much of his life in analysis, and more significantly wrote extensively on the relationship between psychoanalysis and architecture. These writings were both published and, meanderingly and copiously, unpublished. Specifically, Lavin traces Neutra's view, after Freud, of the psychosexual nature of the creative act, and draws

intriguing parallels between Neutra and Wilhelm Reich. In Lavin's analysis, both Reich's orgone box and Neutra's domestic architecture are material repositories for and producers of ideas about psychoanalysis.¹⁸

Neutra published his collection of essays, *Survival Through Design*, in 1954, at the height of his fame. Thomas Hines has described the broad acceptance of Neutra's work:

Like much of his architecture of the fifties and sixties, *Survival Through Design* would come to seem less and less radical as the world caught up with it and consigned it to the category of the respectably déjà vu. Still, most critics of the early 1950s received it as one of the era's most remarkable testaments by an architect concerned with the larger environment as well as with its myriad microscopic components.¹⁹

Survival Through Design, and references to the book in the popular press, helped to reinforce ideas, in the increasingly widespread vocabulary of psychoanalysis and the social sciences, about the relationship between design and human behavior. Neutra introduced the vocabulary of psychoanalysis, with all of its attention to the self, into both the public and the professional-academic arenas.

The Problems of Cities

In the 1960s, a concern for the self-actualizing individual and the suburban middle classes shifted to renewed concern for the problems of cities, and new spins on individualism. The civil rights movement and great society programs encouraged and supported attention to questions of equality and basic human rights and a renewed striving after progressive ideals. The "me generation" found refuge from, and engagement in, social upheaval in new kinds of psychologizing, experimentation with drugs, and exotic religious experiences. Spontaneity, first a countercultural quest in the artistic avant garde of the 1940s and 1950s, became the hallmark of the 1960s and was subsequently incorporated into the cultural expression of the mainstream.²⁰

As the culture shifted, so too did the tone and focus of the design and human behavior idea. Born from the same set of forces, the reductive scientism of the design and human behavior idea was subject to the same

criticism as corporate culture and suburbia. According to its critics, design and human behavior research should not be used to establish invariable standards and to manipulate people into appropriately conforming behavior, but rather should be used to promote freedom, spontaneity, and expanded consciousness. Among architects, flexible space, and user-built and adaptable buildings, expressed in tangible form the ideal of spontaneity and freedom. The phrases "community participation," and "advocacy planning" evoked the new processes whereby the disempowered urban poor, racial minorities, and the underprivileged would be invited to the table to accomplish the improvement of their own environments. Jane Jacobs' widely read book, *The Death and Life of Great American Cities* (1961), signaled and supported this shift in emphasis from the culture of the suburbs to the sociology of the public sphere. Although the focus of attention shifted from the suburb to the city, from the individual to the society as a whole, debate over the design and human behavior idea continued.

Academic Contest

From the late 1960s to about 1980, design and human behavior courses became commonplace in the academic world. A number of articles in the academic press addressed the relationship between the behavioral sciences and architecture. Through these articles the contest over the design and human behavior idea re-emerged in a form similar to that of the *Building for Modern Man* symposium. Chief among concerns was the communication gap across disciplines and the goals of differing fields. Most commentators recognized that architects sought to build buildings and environments, that architecture was sometimes a business, and that academic social scientists had different goals. Social scientists did not necessarily seek to reach applicable solutions to problems, but rather empirical conclusions that could be repeatedly tested. Many of the articles published during the 1970s sought to address these questions of fit between the disciplines. All of these articles concluded the marriage between the social sciences and architecture was imperfect.

Robert Gutman, writing in 1968 in the *Journal of Architectural Education* on "What Architecture Schools Expect from Sociology," addressed the question of interdisciplinary relationship based on his experience at schools of architecture in England and the United States. Both institutions provided him with anecdotal evidence suggesting that architects sought specific information

about how to design, and predictions about the performance of particular projects. He found the architects wanting not only in their commitment to the intellectual prospect posed by the questions of science, but also in their ability to see their own inadequacies:

schools which still are not exercised over the need to improve the programming capacity of their students nevertheless call upon sociologists to help in the design phases of studio work. . . . By the time the sociologist is called in, the students and their instructors have more or less made up their minds about what is good or bad, appropriate or inappropriate, in the aims which the client has set for himself.²¹

The view that if only architects knew how they might benefit from the social sciences and the appropriate time to call for help permeated the contributions of social science to the literature. The disciplines simply needed to learn how to work together better.

Tony Ward took a far less appreciative view of the contributions of the social sciences to architecture in a 1970 *Journal of Architectural Education* article entitled “Totalitarianism, Architecture and Conscience.” Comparing Nixon to Hitler and American prisons to Third Reich architecture, he condemned what he saw as a contemporary totalitarianism and called for a renewal of conscience. He specifically rejected the interference of a particular disciplinary framework in architecture by saying, “the reduction of the person to an *it* is a common practice in everyday existence, but in the Social Sciences it has become pathological. Its technicians are totalitarian—born from a desire to dominate and subjugate.” He apologized for the waywardness of his fellow architects, in pursuing the increasing scientism followed by other disciplines, as stemming from an inferiority complex:

Architects have been bombarded with feelings of inferiority from the members of other disciplines (who have been cavorting in scientific leaps and bounds), and they have taken refuge in either the absurd magic of “how dare you question my aesthetic judgements” or even more significantly in the alchemy of operational research and systems analysis.²²

The alchemy of operational research and systems analysis to which he was referring had been at least part of the subject of a recent symposium and published volume, co-organized and edited by Ward and Geoffrey Broadbent, “Design Methods in Architecture.”²³ The symposium was concerned with environmental structure, as well as more explicitly with questions of behavior. One symposium participant, philosopher Janet Daley, provided “A Philosophical Critique of Behaviorism in Architectural Design.” Daley, inveighing against the claim to “straightforward empirical proof or disproof,” drew an analogy between the circular belief system of behaviorists and the circular belief system of a psychotic (as described in R. D. Laing’s *The Divided Self*). The language of Daley’s critique would emerge in Ward’s totalitarianism article two years later. Ward softened Daley’s “psychotic” into “pathological.”

Conclusion

The design and human behavior idea is frequently understood as an aberration, a throwback to the activities of a few 1960s-inspired social scientists. Design and human behavior research and courses in schools of architecture are sometimes seen as the isolated interest of a few non-architect academic researchers looking for something to do. What has been more generally overlooked is how threads of the design and human behavior idea are woven through related areas of American culture.

Within the field of architecture, the idea of design and human behavior has always been contested. On the one hand, few teachers or practitioners would dispute that the environment affects people; a general humanism has long been in place. On the other hand, the efforts of psychologists, sociologists, and others to influence the field of architecture have been resisted continuously. The contest, waged in journals and at conferences over the last fifty years frequently accused architects and designers of relying on “their own experience” instead of the loftier foundations of “pure science.” This tended to suggest, for the convenience of detractors, that there are only two possible opposing points of view regarding the interaction of people and places.²⁴

That designers of the built environment and social scientists have had to occupy the ground, however unwillingly, between the opposed categories of “artist” and “scientist” has probably been healthy for both disciplines. A review of present Design and Human Behavior courses in schools of architecture reveals a


distinct change in approach from those courses offered before the early 1980s, corresponding with the rise in postmodern theory. Courses seeking to address questions of human behavior fall into a range of categories: culture and gender studies, socially responsible design, phenomenology of architecture, cultural criticism, and architectural research methods.²⁵ What looks like an abandonment of the design and human behavior idea is little more than an abandonment of the trenches. In all of these endeavors the fundamental premise of modernism remains. We are hoping to make progress on our relationships with one another through design and hoping design might lead us to greater human happiness.

Notes:

- 1 Katherine Verdery writes, "More than simply a superpower face-off having broad political repercussions, the Cold War was also a form of knowledge and a cognitive organization of the world." see *What Was Socialism and What Comes Next?* (Princeton, New Jersey: Princeton University Press, 1996).
- 2 Thomas H. Creighton, *Building for Modern Man* (Princeton, New Jersey: Princeton University Press, 1949).
- 3 Roger G. Barker, *Ecological Psychology* (Stanford, California: Stanford University Press, 1968).
- 4 Joseph F. Kett, "The Culture of Self-Improvement," *The Encyclopedia of American Cultural and Intellectual History*, ed. Mary Kupiec Cayton, Peter W. Williams (New York : Scribner, 2001) vol. 3: 81.
- 5 *Building for Modern Man*, xi.
- 6 *Building for Modern Man*, 32.
- 7 *Building for Modern Man*, ix-x.
- 8 *Building for Modern Man*, 67.
- 9 "Form Still Follows Function," *Progressive Architecture* (December, 1947) 20.
- 10 *Progressive Architecture* (January, 1948) 16.
- 11 *Building for Modern Man*, 62.
- 12 James Hudnut-Beumler, "The Culture and Critics of the Suburb and the Corporation," in *The Encyclopedia of American Cultural and Intellectual History*, ed. Mary Kupiec Cayton, Peter W. Williams (New York : Scribner, 2001) vol. 3:27-34.
- 13 David Riesman, *The Lonely Crowd* (New Haven: Yale University Press, 1950), 367.
- 14 *The Lonely Crowd* 366.
- 15 *The Lonely Crowd* 364-365.
- 16 William H. Whyte, "How the New Suburbia Socializes," [reprinted from *Fortune*, August 1953] in *The Essential William H. Whyte*, ed. Albert LaFarge [New York: Fordham University Press, 2000] 32.
- 17 "How the New Suburbia Socializes," 41-42.
- 18 Sylvia Lavin, "Open the Box: Richard Neutra and the Psychology of the Domestic Environment," *A + U*, 371 (Aug, 2001): 12-31.
- 19 Thomas S. Hines, *Richard Neutra and the Search for Modern Architecture*, [London: Oxford University Press, 1982] 221.
- 20 Daniel Belgrad, "The Ideal of Spontaneity," *Encyclopedia of American Cultural and Intellectual History*, ed. Mary Kupiec Cayton, Peter W. Williams (New York : Scribner, 2001) vol.3: 65-74.
- 21 Robert Gutman, "What Architecture Schools Expect from Sociology," *Journal of Architectural Education*, vol. XXII (March, 1968): 14-20.
- 22 Tony Ward, "Totalitarianism, Architecture and Conscience," *Journal of Architectural Education*, vol. XXV (Fall 1970): 35-49.
- 23 The extent to which the symposium represented a backlash against such scientism was made clear in Ward's introduction with the words, "this work was to sow the seeds of my discontent." Ward's discontent led him to work with Christopher Alexander and Barry Poyner on "The Atoms of Environmental Structure," and met many of the symposium participants through the Alexander-Poyner circle.
- 24 This contest is a simple example illustrating what Richard Rorty has written about the dynamic between those believing science gives access to a higher form of knowledge and those who do not. see *Philosophy and Social Hope* (London: Penguin Books, 1999)
- 25 ed. Georgia Bizios, *Architecture Reading Lists and Course Outlines* (Chapel Hill, North Carolina: North Carolina State University) vol. 3, vol. 4 (1994, 1998)

Can we still be modern? Can we still be critical?

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The current growing interest in modernism reopens the possibility to rethink the relationship between aesthetics and ethics, but it is also a double-edged sword for architectural education, mostly from a design perspective. On the one hand, this revival effort implies to reconsider the heritage of early twentieth-century avant-gardes as a reference for experimentalism in architecture. On the other hand, this revival risks denying the historic limitation of modernism as a means for experimentation or for the pursuit of utopian projections in a world whose cultural, social and political contexts are very different from the origins of the early avant-gardes. The revival of modernism is in itself a problematic claim: it can either function as a potential counterpoint to the excessive formalism that sustains most of contemporary architectural discourse and practice or it can reinforce it if modernism is taken for its face-value in an updated version of the problematic definition of an International Style.

This paper does not intend to provide answers to the dilemmas of modernism, but to briefly present two pedagogical experiences in design studio, and to use them as the departure for some thoughts about the place of critical efforts in architecture today, hoping to generate some elements for further debate. The two examples of studio teaching presented today were developed in the architecture programs at the University of Michigan and Washington University respectively. They were conceived in the context of personal and cultural estrangement and pedagogical experimentation. Most of my architectural education took place at the University of São Paulo, one of the strongholds of modernism in Brazil. Architecture in my professional and academic training has traditionally been part of the humanities, and design has been committed more to the sphere of social and political thinking and action than to the sphere of business. My design teaching is mostly informed by my advanced

theoretical education and research and my dissatisfaction with what I have observed in architecture programs in Brazil and in the United States. This is to say that this presentation is a movement to step down and to look at what we do as itself an object of investigation. It contains the contradictions of a stream of consciousness and mainly of a work in progress that tries to raise questions and to develop some form of continuous self-criticism.

Both design studios catered to last-year undergraduate and first-year graduate students, and they were created based on the hypothesis that design education should undertake an investigative dimension, and that design practice should develop strategies to articulate conflicts that exist in the space of contemporary cities. The first example was an invitation to think about social and spatial mobility in the city of Detroit, MI, whose downtown area has undergone a significant process of gentrification in the last few years. The second example was an invitation to think about the transformation of the area called Central West End — with specific focus on Euclid Avenue — into the urban cultural and entertainment district of Saint-Louis, MO. Both studios were divided into different research and design assignments integrating reading and discussions of texts with empirical information, data collection and design activities based on themes proposed by the students.

The studio in Detroit was titled “Mobility and Territory” and was an investigation about elements of transition and permanence in the relationship between architecture and the contemporary city. The main objective of the studio was to critically understand and exercise design in the context of a traditional modern metropolis and its social and spatial transformations, by focusing on the city's history, and on its social, economic and geographic physiognomy. Each student should

develop a design hypothesis based on an existing urban situation in which social mobility had significant impact in the built environment. The framework for the exercise was divided into five complementary units, with the two first ones focused on team projects. The first unit was a research project about how the contemporary metropolis is represented in different media in the context of urban blight and economic deindustrialization. The product of this unit was to produce a temporary installation in the space of the school. The second unit was an investigation about situations of transition and permanence in the spatial, social, cultural and historic dynamics of Detroit. The product of this unit was the production of several panels illustrating aspects the urban, social and cultural logic of the city. The third, fourth and fifth units concentrated on individual design hypotheses identifying specific problems in the city that related to social and physical mobility to be investigated in depth and result in the development of a design proposal.

The final outcome of the studio presented a broad panorama of themes that included the expansion of the small local Amtrak station into a memorial celebrating African-American migrations from the South, a network of small neighborhood outreach technical schools for FOCUS:Hope, an educational institution that caters to inner-city populations, a center for the reintegration of battered women, a boarding house for middle-eastern immigrants, a system of arcades along Woodward Avenue and interventions on the People Mover monorail in the downtown area, moveable libraries for Latch-Key programs and moveable trailers for community gardens in the inner city area. All the projects were individually initiated and researched by the students and responded to concrete situation. Together they produced a mosaic of possibilities for the city of Detroit. Most of them dealt with themes that translated some form of social use of space or representation specific forms of cultural identity with considerable depth and understanding about how each specific institution could operate, and how their buildings could be located in the city, and spatially organized and built.

The studio in Saint-Louis was titled "Architec(ul)ture," and proposed to understand and to exercise architectural design as an interpretive activity that relates values, needs, and the built environment, with emphasis on the development of design hypotheses that critically articulated architecture and cultural institutions in the Central West End. The framework of the investigation was the spatial manifestation of culture(s) in the city.

We understood culture as the force field for the collective production of meaning and not just the official programs and institutions representing art and entertainment. Design was presented as a dynamic and dialectic element between cultural values, daily life and formal and informal institutions that identify this relationship. The students' hypotheses should consider a small-scale spatial intervention that translated aspects of cultural and social life along fifteen blocks of Euclid Avenue, which is divided into three very different contiguous areas: Washington University Medical Campus (South), a gentrified residential and commercial area (Center), and a impoverished residential area with large African-American population.

The first unit of the semester initiated with the discussion of texts such as Sharon Zukin's *The Culture of Cities* and Rosalyn Deutsche's *Evictions*, and it was dedicated to understand how different cultures and social groups presently and historically constitute the study area along Euclid Avenue. The students produced panels integrating research about the urban and social history of the area, based on zoning, demography, cultural uses and interviews with the population. The second unit was dedicated to design an urban art project that stimulated the debate about culture and the public and private spheres in the area. This procedure provided an intermediate step to define how each student would focus on specific architectural projects to follow. Units three and four were dedicated to the development of the design of a small institution that critically represented the notion of culture and its spatial representations in this conflicting urban area. Most projects were concentrated in the central and north parts of Euclid Avenue, and build upon the tendency of the area to provide cultural institutions catering to an urban middle class audience, such as educational art institutions, movie theaters, and a cooking school. Some students decided to work in the edge between the central and north areas as a zone of cultural negotiation in the city. These projects were open to the public in general but catered to poor local populations in particular, such as the case of a design center to train construction labor for architectural restoration and renovation, a sport and art center, and a library/day care center.

The focus of these two studios drew from premises of the modern movement, but more from the perspective that architecture can help articulate or call into question aspects of social relevance than from the perspective of a modernist aesthetic project, even though several of

the projects produced formal ideas that were geometrically and spatially simple, orthogonal, and followed many of the principles of Corbusian and Miesian composition. The result of these experiences was very satisfactory, and in both situations the students commented that they expanded their understanding of the possibilities of design beyond formal exploration. However, given the context in which the studio was defined, that is general program requirements, limited contact students had with other professionals and limited understanding of the political context, design still often remained within the realm of autonomous creation.

The time frame of fifteen weeks was organized so that the students could try to balance out the focus on purpose and the development of an aesthetic project. Students did work with empirical data but often from secondary sources. Decisions were more often based on the assumption of needs than on real needs, since the level of abstraction was still high given the fact that it was impossible to reproduce in the space and time frame of the studio more concrete references to the problems presented by the students. They recognized that their decisions happened in conflicting situations, but it was not possible to check their impact or outcome. As a result, the pedagogical advance in this case seems to have been more epistemological than methodological. Both studios presented the possibility to enlarge the conception of design, mainly by incorporating themes that problematize social relations. The variety of themes was very rich, and the studios also demanded a lot of work from the instructor. The experience could have benefited from an interdisciplinary setting in which architecture students would be exposed to other disciplinary methods for framing the questions and problems they encountered during their design process.

From this brief presentation of two pedagogical exercises we move into the second and longer part of this paper, which proposes a reflection about issues that architecture continuously faces rising from the internal transformations of modernity. After all, architecture as we know it is a modern profession and a modern discipline. One of the problematic issues affecting architecture today lies in the conceptual and practical difficulty for redefining its ethical, social and historical purpose and for creating alternatives to the increasing aestheticization of the built environment and the lived world. This was one of the premises of modernism that we tried to incorporate in the design studios. Under such circumstances, to call into question the role of designers

and of design practice from within our own disciplinary field is a very risky endeavor. It presents great potential for immobility given the contradictions and paradoxes that we face. However, not doing it implies to avoid a question that has been the focus of the critique of the Modern Movement in the last decades: what has been exhausted and what remains open for exploration in this project.

The experimental, critical and humanistic dimension of the Modern Movement was originally tied with the desire for modernization and to the belief in scientific and technological progress as a means for social transformation. This conjunction no longer exists. According to traditional materialist critique, modernism represented a fortunate historical convergence between an undetermined technical present, the new machine age, and the political desire for social revolution. Historic European avant-gardes materialized the purpose of this modern rationalist aesthetic insurrection, which was to take over power in the crisis of the bourgeois world by incorporating everyday life practices into the domain of art. In architecture in particular, modern rationality translated the logic of production and order into the realm of design as the ideology of the plan. The outcome of this process is well known: the instrumentalization of modern rationality in the process of capitalist expansion exposed the internal contradictions of modernity, and of its modernist aesthetic and political project. In a few words, modernism has proven itself limited in its universalizing claims for providing means for social change.

Since the end of the Second World War and mainly after the 1970s, architecture has experienced the end of radical and drastic interventions and designers have seen their heroic role wane in face of the global expansion of capitalist modernization. The appeal of modesty followed the crisis of modern functionalism. Market practices, which propose to create a circumscribed, excluding, and perpetual present (Jameson 1998), have replaced and co-opted the modernist ideology of the plan, which intended to replace the paradoxes of the present by an abstract and totalizing future. According to anthropologist James Holston, both logics assume representations of modernizing utopias of absent causes, which implies that architecture's assessment to reality continues to take place through the reproduction of abstract thinking (Holston 1999:40).

The overview of the modern rationalist gaze has been largely reduced to an aestheticized gaze for visual

consumption, imposing a difficult challenge to architectural design and thinking, and consequently to architectural education. The sense of experimentation and critical practice in design has become very vulnerable under the register of cultural consumption and in a context in which the demiurgic figures of architectural modernism have been replaced by the marketing competitiveness of star architects. The weakening of contemporary critical efforts in architecture has been due not as much to the physical dimension of architecture as to the conditions under which space is produced and inhabited.

If the materialist hypothesis is correct, both the "lesson of modesty," to use the term suggested by Brazilian architectural critic and philosophy professor Otilia Arantes to describe the formal experimentations of contextualism, historicism, and postmodernism, and the more aggressive claims of deconstructivism can be seen as aesthetic euphemisms to the expanding practices of capital, which is in itself totalizing by nature (Arantes 80). The increasing obedience to market mechanisms constantly threatens to banish complex forms of everyday relationships from the consideration of design practice in a cruel manner. In this context, the virtualization, the aestheticization and the simulation of architectural space impose an even more abstract condition to the production of space than the one defined by the early modernist project.

As we look back at modernism, we face serious challenges that should consider nostalgic feelings with caution. Can design practice and education go beyond the established architectural value system of visual forms and aesthetic discourse? Can architecture go beyond the organization of physical and visual space? Can architecture challenge its own understanding of what society is, and how social life is organized? Can architecture call into question the notion of architectural creation, the image of the architect as an autonomous creator as well as the illusion of his or her mastership (Baudrillard 1999:84)?

The response to these questions is difficult to articulate and it depends less on aesthetic discourses than on how designers conceptualize and organize their own practices. The isolation of professional practice as the creation of objects for visual and cultural consumption does not advance the traditional argument that the spaces of representation of everyday life have gradually been removed from architectural thought (Lefebvre 1991). As architecture legitimizes itself as an instrument for

the reproduction of a specific *status quo* it limits its own possibilities for experimentation to the realm of formalism. The challenge to constitute alternatives to this kind of practice is largely related to the challenges imposed by the paradoxes of modernity.

The philosophical paradox of modernity is translated into the modernist aesthetic as autonomous creation. The philosophical and ethical ideals of modern rationality proposed a radical departure from tradition by establishing universality and novelty as its basic principles. Modern art and architecture gradually became self-reflexive, and started to develop and contain the artifice of representation in the artwork itself and renounced to reproduce what it defined as reality. Ultimately, it is reasonable to suggest, as Otilia Arantes does, that the shock of the new was neutralized and aestheticized and the avant-gardes exhausted their political possibilities not only because times have changed, but also because modernism kept its promise (Arantes: 69).

Since then, the effort of the avant-gardes has weakened under the pressure of cultural consumption, losing much of its original ethical and political appeal. Architecture, which tends to become more and more reduced to an instrument of symbolic legitimization of commercial developments, has allowed for unprecedented complicity between design, designers and the market. As a result, the sense of experimental work tends to be reduced to a series of aesthetic criteria devoid of broader ethical concerns. Contemporary architectural theories and critics have born witness to the weakening of social, political and historical claims over the built environment. The time is gone when governments, private clients, professional organizations and even the press offered cultural themes and political causes around which designers could organize themselves.

This is the context in which we have to continuously rethink critical efforts in architectural education and practice. Design, as a means of spatial representation, carries the inevitable principle of promotion and control of human and social relationships in the physical environment. However, we can no longer nurture the notion that this work can offer solutions to the historical, social and cultural crises of modernity. The challenge in revisiting modernism relies in avoiding the reduction of such critical efforts to an abstract and autonomous sphere of action, which reinforces architecture as a means to legitimize capitalist modernization and the

reproduction of culture as the second nature of economic and social life (Jameson 1989, Featherstone 1993).

Both modern utopias and modernist aesthetics have shown their own limits as instruments for social transformation. The historic avant-gardes wanted to transform and not to aestheticize the relationship between culture and material and social life, but as a consequence of abstractly forcing this reconciliation they “ended up restoring what they expected to subvert.” (Arantes: 28-35). According to anthropologist James Holston, it was not the dissolution of the social sphere in the modern disciplines of architecture and urbanism that created an impasse to architects and designers (Holston 1999:37). He proposes this argument to counter architect Aldo van Eyck, who claims that the dilemma of architecture and urbanism in the turn of the 21st century is due to the loss of social dimension in the modernist practice of architecture and to the impossibility of our discipline to offer new solutions to the impasse.

James Holton's argument is that the difficulty in finding alternatives to design derives not from the impossibility of creating new formal solutions, but from architects' difficulty in dealing with the multiplicity and the paradoxes of spatial representations in contemporary societies. According to this argument, what architects need to learn in order to renovate the sense of critical efforts in architecture is how to work with this multiplicity and complexity, contesting them from within and establishing articulation between them. If this hypothesis is correct, the entry door for exploring design and practice alternatives is not simply to renew the formal and visual dimension of architecture. The growing interest in modernism today can only be productive if we consider it from a critical bias.

The search for alternatives in the exercise of architecture as mediation to social life, Holston argues, should take place “through the rejection of the utopian and redemptive power of modernism,” but still be able to problematize both “modernism's commitment to the invention of society and to the construction of the state” (Holston 1999:39) and “its obsession with the design of objects and the execution of plans and policies” (Holston 1999:55). We can risk saying that this procedure should incorporate the cultural and political claims of contemporary social practices and theories as well as reconsider Henri Lefebvre's (1991) argument that, in the crisis of modernity, the spatialization of the social sphere is directly related to the recognition of everyday life experiences.

In this ambiguous and paradoxical situation, critical efforts require the recognition of the trans-disciplinary and public dimension of the professional practice of architecture. The reconciliation between physical organization of the built environment and multiple forms of social organization cannot be defined by the traditional notion of the architect as an autonomous professional expert. Architects may continue to operate within the framework of a representational universe that is visual and formal, but we need to incorporate other methodologies and investigate our aesthetic universe as a potential expression available to different social and cultural groups for contesting meanings and identities through different political and economic forces. In other words, this attitude should imply reject abstract utopias, and to observe the transforming potential of the present.

If it is still possible to think according to the modernist slogan that “form follows (something),” this assumption could be useful for reinforcing the fact that the materialization and the configuration of physical space are social products that cannot be limited to the control of design abstractions. If design considers the inevitability of social life, it can explore the contingent condition of social codification and spatial representation that take place in the built environment. The meaning of space cannot be reduced to the geometric qualities of the formal and abstract thinking that is still very common among architects. It also relates to the “connective tissue that maintain everyday life relationships” (Crawford 1999:26) in an amorphous and trivial condition, which is often invisible to design experts.

One of the challenges that remain open for design activity in architecture today is how to deal with real conflicts of daily life both for their liberating potential and their limitations in a dramatic contemporary panorama in which some social and spatial boundaries are destroyed while new ones are created. Architectural design can only transcend the domains of technical discourse and business service or even the realization of an aestheticizing and self-referential exercise if we are able to constantly suspend reductive definitions. Each design situation is a different situation that has to be considered in its specificity. These situations respond to the unstable condition between the material spaces of our lived experience and their imagined and staged representations.

The spatiality of architecture cannot be restricted to geometric categories and even less to the appearance of visual spectacles. Space is above all constituted by

lived experience, which continuously presents complex existential, political and identity relationships pointing to possibilities and limitations in design. The materialization of contemporary design occurs in very unstable urban, economic, and cultural contexts, which are historically defined and altered by collective and individual social practices. Design participates in the articulation of conflicts, but it cannot solve them.

In a period of epistemological suspension and suspicion it is difficult to conceive of alternative forms to design practice that nurture naïve optimism as well as approaches that have a generalizing or totalizing character. It seems reasonable to maintain the frontiers of the discipline of architecture open to incorporate premises developed by other areas of knowledge and social practice. According to James Holston, this doesn't mean, however, that architects must become anthropologists, philosophers, or sociologists. It means that architects can learn other methods of investigation and understanding of the lived world in order to redefine our own field of action and knowledge.

To expand architecture's professional and disciplinary field implies to call into question the system of beliefs that guides practices and reflections about the relationship between design and built space as the place of lived experience. From the theoretical viewpoint, architects can consider design critically by positioning themselves as translators of different needs, values and sensibilities of specific individuals and social groups, and promote architecture as the mediation between them. This approach requires constant revision of principles, criteria, and attitudes by architects, since architecture should not be considered merely as the result of the abstract conception defined by a subject positioned outside the situation under investigation. From the practical viewpoint, architects need to continuously investigate the relationship between design and the transformations in the public sphere in a moment in which elitist economic and political institutions and power structures demobilize the commitment between design and the emerging and insurgent forms of social organization.

In this contemporary situation, to incorporate critical efforts in the exercise of architecture means to develop conscientious perception, sensitivity to otherness, and the ability to articulate conflicts and correlations that are not only physical and spatial and that take place among antagonistic universes, values, and interests. Design points to unveiling relationships. Each project is

unique and corresponds to a specific situation. To follow a single or totalizing model, be it functionalist, formalist, economically strategic, or corporate, repeats and reinforces the paradoxes of modern rationalism. It is increasingly evident that all that architecture can do is "to offer spaces that could - in the best case - attract certain spatial practices" (Leach 1999:32). However, even though we cannot expect design to perform more than what it can offer, since there is no direct guarantee to its intentions, design practice and reflection should pay attention to the fleeting dimension of symbolic and social practices.

The work of designers makes sense when their liberating intentions meet "the real practice of people in the experience of their freedom" (Foucault 1997:348). The convergence between design practices and cross-disciplinary reflection about architecture and space has a lot to contribute to the enlargement of the purpose of architecture. No theoretical consideration can stand for the totality of knowledge, since in human action and reflection every phenomenon repeats itself in a different way. If architecture is to advance its experimental potential beyond aesthetic discourses, it has to be through one of the most important legacies of modernism, which is by taking risks. Architects have to risk leaving the apparently safe realm of service provision as symbolic legitimization (when the process is economically satisfactory) and focus on the creation of epistemological tactics and not only on the development of formal methods and strategies.

The canonization of the legacy of the modern movement or even of the modernist aesthetics risks promoting the immobilization of projective imagination. Architects need to explore space in the complexity and verticality of social and cultural phenomena, and not just according to the technical rationality of measurements and generalizations about the lived world in the spectacle of superficial images. A cautionary note should accompany the reconsideration of modernism: design must constantly revise the premises of the modern movement as well as make sense of the contemporary and historical paradoxes in the moving terrain of modernity. Architectural design should be seen less as the projection of an absent future than of the possibilities offered by the present and by existing conditions. After all, we are dead as modern subjects, but we are still alive. And this is what can be beautiful and fascinating.

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Thesis as Installation

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Introduction

...architecture seen in its full proximity and intimacy with the system of forces that give shape and rhythm to the everyday life of the body... defined now not by how it appears, but rather by practices... must confront its character... at the very least as an element inseparable from and in constant interface with the world of force, will, action...

Sanford Kwinter, *Architectures of Time* (1)

Thesis Context at Cal Poly, San Luis Obispo

The terminal project at many undergraduate programs involves the statement of a thesis. This architectural research is often daunting even for those in a five-year professional program and frequently falls into the restatement of an existing general functional proposition resolved on a specific site; more akin to "Senior Project". To aid in the student's selection of a primary thesis studio and professor/critic, Cal Poly's architecture department asks the student to prioritize a list of thesis lab offerings based on a written prospectus of the professor's area(s) of interest/specialty. The fifth year coordinator attempts to place students in yearlong lab/studio groups of 16-24 based on these preferences. These offerings are meant as "proto syllabi" to cover the general tone, methodology, intensity, and scope of the yearlong study under each critic/instructor. The selection includes the topical design lab, as well as co-requisite fall quarter thesis seminar conducted by the same faculty member.

Upon being asked to take on one of these labs for the 1998-99 school year I developed a prospectus dealing with the nature of educational settings that was constructed to allow students to discern maximum latitude in selection of a particular personal beginning position/starting point, by asking students to critically

examine their present understanding of the existing educational situation (2). This was also chosen to reflect, build upon, and critique the experiences of the student in their own seventeen-odd years of formal "schooling". Their subjectivity was welcomed. By including in the offering a schematic look at recent educational psychological thinking and a survey of educational philosopher/practitioners, students were exposed to an intertwined and framed debate rather than a static typology.

Personal Commitment

I chose this path following my own career of designing both public and private educational facilities for much of the 1980s and 1990s. This background included an especially rewarding series of projects for an arm of the Archdiocese of Baltimore, which initiated numerous projects such as micro schools (some as few as 20 students), schools for special needs children and adults, and targeted day care centers. I was always haunted by a short quote from Corbu that I had found in an older book on daycare: "... they (ages 2 to 6) who are living the book of life at an age where everything is still promise and laughter." (3) I was shocked how that optimism seemed to be tired and spent in the majority of the school district situations that I found myself working. I spent my concurrent time in graduate school pursuing where and in what it was I could believe in within the dominant educational culture. The thoughts I collected in that process formed the basis of the prospectus.

This framing of the educational debate also exposed my own prejudice, of placing the individual back into the middle of the architectural debate. The placing of a sensate person as the intersection of the developmental and architectural debates leads to a discussion of perceivable space, time, and place, which are critical to

the student's exploration. I felt these aspects able to be commenced through a phenomenological methodology. The idea of terminal installation over time grew out of and is a natural extension of those original experiential concerns.

Structure

Diary: Initial Offering and Lessons from 1998-99 and 1999-2000

The initial 1998-1999 lab offering proved successful in the eyes of many of my peers and the 19 students in the lab. The following year (and since) the lab was the highest priority among our fifth year students from as many as 7 to 9 lab choices. The advantage of a focused prospectus was proved in that students came with provocative proto-topics and situations from day one. Initial project locales included places traveled by our fourth year off campus students in European and more familiar settings in the Americas, with topical areas including a transcendental meditation spa, an urban university union, a seminary for a Central American religious sect and school for children on a Mexican Finca. Of course there was an elementary school or two as well.

In the Seminar, while exposing the students to some of the core writings of Merleau-Ponty and Heidegger, I was also exploring the newer writings of Dreyfus, Irigaray and others. As readings, the students found these ideas and sources baffling, and I believe they are most difficult for any undergraduate student, especially one in a program without a structured theory component as ours. At the time these issues were also less available for discussion in earlier years of our labs due to the interests of faculty. That situation has thankfully changed. In my own research with the nature of spatial constructs within Pueblo Native American communities and my partner's ethnomusicological work with Apache groups in Oklahoma, I was becoming increasingly familiar with the development and acceptance of naturalistic and normative methodologies, which avoided traditional "objective" distance between researcher and topic. I saw these as a companion to the developmental interests of the individual and general phenomenological awareness I was advocating (4). I adjusted the initial fall emphasis in 1999-2000 to exercises that were phenomenal studies of their sites concurrent with the written texts. This wrestling of concept, actuality and method simultaneously was productive. It was discussed with

the students as "grounds", literally and figuratively for their work to grow from, not to be dictated from.

I was also struck that while not explicitly required to be so, the students intuitively felt their initial research and work was necessarily written. This partially stemmed from peers having to write "books" for their thesis classes. While I found many of the students competent writers, the word was not their media of expressive excellence. I encouraged, and then required more visual studies, suggesting collections of images and found objects of the people and sites of their projects, as well as texts and traditional bibliographic sources. This led to my requiring the research summary for fall quarter to be compiled in a provisional "Artifact" vs. a book. I found this allowed more freedom to pursue source materials and provided another creative outlet of description and making. The final Artifact could include the final studies, as I always noted to the students that *all design is fundamentally research*.

The second offering of the lab in 1999-2000 proved equally rewarding. I initiated an additional required "ground" of population, so that the project occupants would be less abstract. We discussed the idea of knowing "the other" in more intimate way, from observing actual groups to crossing the barriers between into direct communication and noting specific action. This produced a rich collection of images, interviews, real and fictional narratives and creative writings describing days in diary form. Project users became people, and now had race, gender, age, height, weight, preferences in the world, slept, ate and enjoyed each other's company. I also asked for the grounds of the institutions proposed, a more problematic assignment as not all the transformational "functions" were built on existing typologies or had an environmental or physical manifestation. The second collection of final Artifacts was interesting with take apart constructions, metal encasements/bindings, and spectacular collages.

Several situations lead to my decision to install the final work vs. traditional presentations. Our school has few spaces for critiques. Most labs use the college gallery, at the base of a massive covered concrete stair court in our systems building concrete frame structure. With 10' clear interior space between floor and concrete beams, and at about 2200 sq. ft., it is the only space large enough for an entire class to present their work simultaneously. In a ten-week quarter it is heavily scheduled, and rarely available for more than three or four days at a time. I had the student work reviewed by

formal juries several times: in late fall and sometimes twice in the winter. I was concerned that another critique would muddy the final progress made right before graduation, and allow no inclusion of comments in revision prior to graduation. I had been satisfied with the work of the lab and wanted a positive finish and point of collective closure for the students. I also was concerned the projects, while individually with merit, paled as a group in the gallery space. They were there to be looked at, but did not acknowledge the gallery or observer "there". A growing number of students were pursuing digital means for design, which I encouraged, including walk-throughs, but I was typically left with a feeling the spatial *sequences were far more developed and understood than the project or spatial materiality*. My prime concern was that while the individual projects were satisfactorily developed in drawings and models, I was getting a sense that the materiality of work, given its phenomenal beginnings in fall, was still too abstract. One of my students, Chris Brown, had done a steel assemblage based on a full-scale wide flange section for his final critique. His project, a school for the visually impaired, was structured on an interesting steel frame, and he had composed the steel piece to be tactile- with bolt heads, smooth welds and fins. The piece was very well received in its design, but especially its actuality, as the drawings reinforced the visual, a school for the visually impaired would require a differing way to explain itself. I owe the inertia toward installation to Mr. Brown. The following years I implemented a materials palette selection (always provisional) in the fall, but most importantly, I required the class to work on installation charettes for the sole purpose of clarity in what they were working for in the spring, and to reground the work in a collective material effort.

Common Sequence and Components 2000-2001 and 2001-2002

The third and fourth versions of the lab were conducted with the following quarter goals:

Fall: Collection of the Topic Lifeworld: Explore phenomenal grounds of project population, project setting, and transformative mechanism (institutional intent). Project definition, intuitive and structured programming, preliminary site planning and schematic building planning alternatives. Compilation of quantitative and qualitative program. Collection and critique of precedents. Initial materials selection and

collection. Field trips: local Montessori school, regional Waldorf school, San Francisco (topography, urban space and edges, firms, arts and educational institutions). Preliminary Artifact.

Winter: Gathering of Spaces, Materials and Intentions: Schematic design of site and structures in an integrated way focusing on the totality of population, setting, and architectural intervention. Field trip: Los Angeles "Tectonic Listening Tour" (Schindler, Neutra, Wright, Lautner, Case Study Houses, Venice and "Santa Monica School" architects, arts and educational institutions).

Spring: Tectonic Exploration and Installation: Design development with an emphasis on the role of materiality in closure and detail. Installation charette, planning and execution. Final Artifact.

Installation Matrix

For the purposes of initiation of class discussion on installation in the spring, a matrix was developed which contrasted differing strategies for the final exhibition. The choice of means within the suggested realms was left to the individual student based on the development direction of their research.

Selected Student Work 2000-2001

Collective Charette

The student group had a mix of spatial and more traditional exhibition techniques. The class decided on a "black out" gallery with black craft paper walls and totally artificial light. The larger spatial installations would be spread out in the three structural bays of the gallery. Sound recordings and digital and slide projections were spread throughout evenly for least spillover.

Platform Music; Marissa Gregory

Beginnings: Ms. Gregory was fascinated by the oil production platforms which dot certain off shore horizons of the California coast. Upon finding several off of the Santa Barbara coast were being decommissioned, she sought to find out what was done with the structures at end of use.

Grounds: Marine steel frame, Musicians: singular and in ensemble, Sound recording studio/ retreat/ dwelling.

Process Discoveries: Physical modeling revealed a complex dual nature of tightly closed acoustically



protected spaces and daytime naturally lighted potentially more open or operable spaces. Night as lighthouse. The cladding of the enhanced metal frame became focus of many studies and resolved around a Japanese lantern like translucent zone opposed to an exterior metal clad series of volumes.

Artifact: Watertight metal compact disc case containing digital recording of seascape, QuickTime movie of site visit and sea approach; required texts and developed design documentation.

Installation: Walk-through environment of perimeter rectangular light gage steel frame with fractal curvature steel conduit/tube infill supporting plastic sheeting and metal plates. Seascape sound track loop, light-up model, metal study models.

Re:Fuse- Reigniting the Human Spirit; Raylene Gorum

Beginnings: Ms. Gorum was interested in the habits and urban navigating and cognition of homeless in San Francisco.

Grounds: Downtown San Francisco homeless; Waterfront brownfields site; Urban safe space/drop in center.

Process Discoveries: Exploration of day-to-day basic human needs including: wire and charcoal fire sculpture executed on a local beach (videotaped); On site sound recording interview transcripts and actual day mapping of study group.

Artifact: Series of cardboard plaques individually composed and utilizing a Klee-like symbol system



Marissa Gregory's installation and study model which inspired the mode of presentation.



Raylene Gorum's installation including beach fire construction video and prepared shopping cart.



Sarah Garcia's fabric enclosure installation and interior mylars and corrugated models.

collected into topical groups. Text set with older style typewriter font and additional appliqué.

Installation: Partial perimeter of suspended ink on mylar drawings with orange colorfield blocking. Prepared shopping cart (shopping cart, sod), video of beach sculpture immolation, mock audio broadcast of programmed homeless radio station. Found metal objects, including table for display of study models. Metal site model of vertically oriented topography sections with metal, plastic and paper architectural study. Manual typewriter for visitor comments.

The Inn Does Tri; Sarah Garcia

Beginnings: Ms. Garcia was concerned with the runaway youth she had seen in the Hollywood section of Los Angeles.

Grounds: Hollywood situated heavy timber and masonry loft structure and adjacent vacant lot and streetscape; Male runaway teens; Residential school for stagecraft.

Process Discoveries: Tentmaking and fabric. The loft structure cleared of internal non-structural partitioning allowing the creation of nomadic structures within the shell constructed by the young men as a right of passage into the school. The nature of the proposed fabric and

plastic tubing structures allowed dwelling modification, additive multi-person expansion and vertical expression.

Artifact: Tripartite format of handwritten and digital text on paper and mylar with hidden and sliding compartments. Recycled/used book cover(s) and metal u-bolt bindings on plywood base.

Installation: Approx 10' x 10' x 8' walk-in environment of burlap on pvc pipe walls, with suspended mylar and paper drawings, and corrugated paper model base for paper model. Recycled and selectively refinished wood palette floor with redwood strip inserts.

Selected Student Work 2001-2002

Collective Charette

The group again had a mix of spatial and more traditional exhibition techniques. The class decided on a differentiated gallery, with north facing glass curtainwall to let in natural daylight and sidelight one 60' white wall; black craft paper walls for one structural bay with totally artificial light. One larger spatial installation (M. Zimmerman, below) would act as a barrier between zones. Sound recordings (8 projects) and digital and slide projections (10 projects) were spread throughout evenly for least spillover.

Love Act; Mandi Roberts

Beginnings: Ms. Roberts had won a competition that allowed study in Japan her previous year and she came back to California with an interest in Buddhism and its commonalities with the ascetic Catholicism of the Franciscan Order.

Grounds: Sheer stone hillside of Telegraph Hill and access to North Beach "red light" district; Franciscan monks and urban homeless; Hospitality/ hygiene and meditation/ dwelling.

Process Discoveries: Cast plaster, wood and glycerin models of building areas and details. Watercolor sectional studies. Collaboration with classmate on homeless interview video.

Installation: Walk-in enclosure: sheer fabric on suspended wood frame, internally lighted to produce shadows of those within. Collected models and larger scale basswood model.

Verum Factum; Megan Zimmerman

Beginnings: Ms. Zimmerman had studied in our Denmark Program and in her travels had discovered the medieval ruins of a fort, which had guarded the canals which cross Interlaken, Switzerland.

Grounds: 11th c. stone ruins; Augustinian monks; Worship, reading, dwelling and watch making.

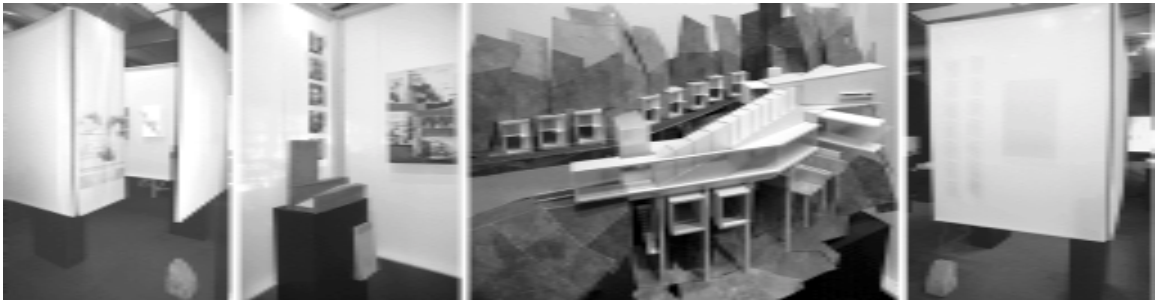
Process Discoveries: Phenomenal studies included large metal cast key in series of enclosures, and a player piano music roll rebound into a leather binding. Ms. Zimmerman did numerous studies in plaster of relation of concrete to stone, and constructions of wood models from found source materials.

Artifact: Leather clad book, with leather-laced bindings.

Installation: Enclosure within gallery's collected 4 sets of prefabricated rolling and folding steel framed partitions. Ms. Zimmerman eschewed digital means and executed large-scale pencil drawings, including a 12' long site section and numerous building sections. Numerous cast plaster studies of new concrete enclosures and details. Model base of wood and copper tubing supporting study models.

Celebration of Life; John Joranco

Beginnings: Mr. Joranco's family had a friend who had gone through unsuccessful cancer treatment that was emotionally devastating, and he wished to research alternative holistic health settings and strategies for cancer patients.



Mandi Roberts' suspended fabric closure, model array and collage 1, main study model and shadows.



Megan Zimmerman's 12' site section (pencil), cast plaster and found wood model, and key study.

Grounds: Ruins of 19th c. Sutro Baths, Pacific coastal San Francisco; Women undergoing cancer treatment as outpatients and on-site dwellers; Bamboo, concrete, and water.

Process Discoveries: Mr. Joranco explored the topic initially through emotive watercolor painting and a search for a materials palette that heavily influenced the design. He became fascinated with the possibilities of bamboo and found a grove source that permitted him to harvest large quantities for experimentation. He came up with a unique composite structural system of laminated wood, bamboo matting and cast concrete

Artifact: Collection of watercolors and associated text.

Installation: Walk-in enclosure of bamboo, laminated wood, and steel rigid joints, all of which he personally harvested, fabricated and installed. Commercial bamboo flooring. Copper tubing for display rail and hanging rod for graphics.

Postlude

The concerns I carry forward now are primarily about how much additional work the installation is for the students (and professor) over and above the expected level of project development in the more traditional sense. It entails a knowledge of how long one's installation strategy takes to achieve. I have taken note of the increasing involvement of colleagues and parents of students much in evidence the days before the show as the installation entails a *crew*. Lighting acquisition and adjustment and final materials acquisition are time consuming, and the cost of mounting some of the efforts makes it by necessity optional, and undertaken by only the most adventurous. The limitation of duration of the exhibit is frustrating.

The final gallery shows are now an institution. A separate invitation-only weekend opening allows a more intimate reception for family, friends and out-of-town

invited guests. The weekday opening for the campus community is a festival atmosphere drawing over 1000 visitors, including professionals coming to interview the students on the spot. There is food to consider; last year we instituted a cookout for 100.

I look forward to my largest group of students yet—24—in the 2002-2003 school year, but with the challenge that we have overgrown the current gallery space. On campus venues of scale are limited, and the idea of going off campus risks the loss of peer and lower year student attendees. The students want and need their efforts to be seen!

The class of 2002 also included the first design-build effort in the lab: a tensile/fabric based structure being constructed in "Poly Canyon" an area our campus the department's founding Dean, George Hasslein, had set aside for construction experiments. It is the first structure added there in over ten years, and represents the ultimate "installation". The project, by Royce Chow, in collaboration with an architectural engineering student doing calculations on project reinforcing and steel members for his senior project, and a landscape architect, who shot topo and helped site the structure as part of a new canyon master plan for her thesis, was still being completed at the time this paper was compiled.

Notes:

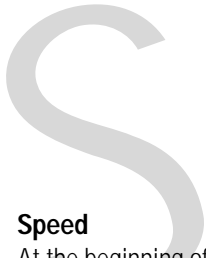
- 1 Kwinter, Sanford; *Architectures of Time: Toward a Theory of the Event in Modernist Culture*; Cambridge, MA: MIT Press, 2001. p. 14.
- 2 The intuitive developmental and psychological ideas behind the initial offering were expanded upon in a paper by the author: "A Critical Typology of Education Settings" published in the *Proceedings of the 1998 ACSA Southwest Regional Conference*.
- 3 Le Corbusier; *Nursery Schools*; NYC: Orion Press, 1954, p.4.
- 4 One summary of naturalistic methodology and techniques is available at: <http://writing.colostate.edu/references/research/observe/com3b1.cfm>; 8.26.02.



John Joranco's bamboo and wood tectonic (prior to complete display) and watercolor example.

Pumping Up: Digital Steroids and the Design Studio

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Speed

At the beginning of their studies in architecture is there a student who does not want to be more artistically effective, intellectually agile and just flat out fast? It is in their nature to want to immediately possess the information necessary to make them brilliant.

This past spring during the controversy regarding the use of steroids in Major League Baseball, Tony Kornheiser, a reporter for the Washington Post facetiously confessed to taking steroids in order to become, “bigger, stronger and faster on the keyboard”. “You should see me type now”, he wrote, “I’m unbelievably fast, yet precise at the same time. I’m the Eric Clapton of the laptop. I can type all of ‘Moby Dick’ in 14 minutes. I can type faster than Evelyn Wood can read it.” He goes on to say, “I couldn’t believe how powerful the steroids made my words. Suddenly I could throw in a word like ‘enigma’ without ever worrying what it actually meant. My vocabulary expanded exponentially. I used to be a three-syllable guy at most. But under the influence of steroids I could bat out four-syllable words like – well, like ‘exponentially’ and five-syllable words like ‘onomatopoeia’...Steroids gave me all sorts of confidence.”¹

One of the biggest challenges facing faculty teaching in the early years of architectural education is the impetuosity of the beginning student. Their intuition leads them to believe that quickness is something of value in the arts. In this, they are essentially correct. What they typically lack, however, is the ability to distinguish between quickness and haste, between the ability to move swiftly with skill and precision, and the impulse to act on the spur of the moment without thought, accuracy, or attention to detail.

Understandably the beginning student is confused. How can they act quickly when the urge to act fast often leads them to the kind of crude and clumsy results that

reveal their inexperience? How can they get going and act without delay when thinking carefully seems to slow them down so much?

Slowness

No one wants to go slow. Slow is so close to static that it is scary. In our dynamic, hyper-digitized, cyberceptive² world it is embarrassing to be slow. The virtual world is accelerating at dizzying rate and images are multiplying exponentially. But, for most of us, the life that we live in the actual world remains constant.

Our inner world and the outer world are connected by a kind of existential mathematics. The rate at which we live affects the quality of our sensations. “If by some sudden magic”, wrote Gyorgy Kepes, a half-century ago, “we were to live a million times more rapidly than we do, in surroundings that retained their present pace, the coming and going of day and night, the slowest movements of a sleeping child, would become a blur, a texture too smooth to be grasped by the senses.”³

The velocity of life is also linked to our ability to retain what we perceive. In his novel, *Slowness*, Milan Kundera, develops a basic existential equation to explain this relationship. “There is a secret bond between slowness and memory, between speed and forgetting”, he writes, “...the degree of slowness is directly proportional to the intensity of memory; the degree of speed is directly proportional to the intensity of forgetting.”⁴

The urgent task of the teacher is encouraging the student to develop an awareness of this secret bond between slowness and memory before they become overwhelmed by the promise of speed attached to the general euphoria of virtual reality.

The Resistance of Material: The Construction of a Sphere

The memory of making an actual physical object is hard to forget. It is a kind of durable knowledge.⁵ In this one-week exercise students construct a plaster sphere and then get to know the thing they have made through drawing. A considerable effort is involved in the construction of the sphere. There is the making of the mold, the preparation of a place to pour, the mix of plaster and water, the meticulous cleaning of the workplace, waiting for the plaster to set, and finally transforming the rectangular solid into a spherical shape by turning it against the open end of a PVC pipe.

Making the sphere takes more time than anticipated. Each step in the sequence of events dilates time, and every lapse of concentration causes mistakes that multiply time. Initially, the slow pace is frustrating, but this experience in constructive concentration leads to unexpected enrichments of later work. Mixing the plaster with their hands, feeling the heat of the curing process, and turning the sphere, over and over, makes the student immediately more attentive to the sensuous nature of materials. Beyond tactile sensation the student mentally grasps the fact that this and other constructive acts involve a complex sequence of events that take place over time.

With the sphere in hand the student then makes a drawing. Working backward from the standard practice of making drawings that are conceived in advance of concrete objects gives the student an edge in observation. They are already aware that the object they have made has certain qualities. They know where flaws exist and why they are there. Air, for example is often



Digital rendering of CNC milled aluminum object designed in the Rhinoceros NURBS modeling program by Jill C. Guertin, Flamingo rendering by Bill Sevebeck.

trapped beneath the surface of the plaster. When they depict the object students often show this imperfection. They do this, I believe, not because the flaw is visible, but because their sphere is no longer a conceptual object. It inevitably retains traces of the process of construction that remain at the forefront of their consciousness.

This memory of a constructive process extends perception. It slows the student down and allows them to develop a patient and persistent approach to a series of actions. When they draw the shadow of the sphere, for example, their heightened awareness of material and construction makes them more attentive to the surface of the paper, the quality of the lead, the pressure of their hand, and the position of the sphere on the paper. Each consideration takes time, and none can be acquired in a hurry.

At the outset of this drawing the student already knows too much to preconceive the result. They know, from observation that the shadow of the sphere is something more than a uniformly dark space on the surface next to an object. And they know from experience that the relationships involved in the construction of an object are too complex to understand in advance. So they act in order to have enough information to begin again. "Our efficiency," Renzo Piano writes, "implies the complexity of doing and doing again."⁶

The Promise of Digital Technology

Advances in the virtual dimension promise to have a resounding impact on architects and architecture. "Technologies of simulation," according to Derrick de Kerckhove, "...are becoming so flexible, affordable and user-friendly that they eliminate the need for the slow and difficult steps in drafting and modeling." He goes on to say, "They allow faster processing and rendering, hence a closer approximation to thinking. Imagining and imaging almost become one."⁷ The old-fashioned 'efficiency' of slowly building a constructive imagination through repeated acts of drawing and making has mercifully come to a close. Or has it? Have advanced digital technologies really changed how we learn to give shape to the content of our imagination?

Without doubt simulation technology has altered the speed at which designers conceive and produce images. Drawings and models that once took days and weeks can be created in a fraction of that time. The physical simulation of mental images is at an all time high. A 3-d printer, for example, can make intricate models of computer renderings. An object that has just come to

mind can be held in the hand a few hours later. Likewise, a CNC milling machine can turn a block of metal into a sensuous shape in the course of an afternoon. Casting such objects in the past would have taken advanced skill and painstaking effort. Now things can be fabricated in almost no time at all. You can have an idea at breakfast and an object in your hand before lunch. And, best of all, you can be producing other simulations between breakfast and lunch because you do not need to be present while the object is being made.

The Problem with Simulation Technology

But does the speed of processing and rendering bring us closer to thinking? Technologies of simulation imply that the rate of image production is directly proportional to the intensity of imagination. In other words our imagination will increase in force as we increase the speed at which we make and process images. It might be anachronistic to return to Leonardo, but he too subscribed to the idea that imagery and imagination have a direct proportional relationship. In his advice to painters he asks them to consider a new device for stimulating the mind. “Although it may appear trivial and almost ludicrous”, wrote Leonardo, he nevertheless advises the painter to look at almost nothing to improve their imagination—a wall spotted with stain, for example.⁸

Rapid simulation of mental images detached from the veracity of matter and the means of production has an illusory effect on the imagination that fosters constructive naiveté. Everything appears possible. When the real conditions of everyday life are suspended there is no limit to formal preconception.



Plaster sphere constructed by Erin Moon.

The resistance of material, however, limits what can be conceived. Brancusi's numerous broken birds, for instance, were the result of a preconceived idea. He was simply forcing stone to do something that was not in its inelastic nature. His eventual success with the material is less an argument for preconceived form than it is a reason to support the interplay between idea and matter. “The artist”, said Brancusi, “should know how to dig out the being that is within matter. . . .”⁹

Rapid prototyping devices offer an illusion of instant sophistication. Student's easily become enamored with how quickly ideas become solidified as objects. In no time at all the reality of matter becomes a nuisance and immediate formal results become the object of their attention. This emphasis on quick reproduction rather than resolved thought is counterproductive to a student's intellectual growth. It encourages a premature confidence that, among other things, lacks substance.

The Task of the Teacher

Architecture is more than appearance. It involves an invisible, ineluctable multiplicity. The perennial task of the teacher is to put the student in a position to order and structure intellectual difficulties, not to pretend they do not exist. Matter is just one of the multitude of forces that make up a building, an artwork, or a piece of furniture. It is a permanent part of the diverse and complex information that a student will have to bring together to creatively form a whole.

It is a mistake to believe that the speed of simulation technology will substantially change our awareness of our thoughts and surroundings. The computer is a tool and tools in themselves are not creative nor do they open our outlook on life. In his Nobel Lecture, the poet Joseph Brodsky, said, “The one who writes a poem writes it above all because verse writing is an extraordinary accelerator of consciousness, of thinking, of comprehending the universe.”¹⁰ Making architecture, like writing verse, is incredibly slow work because it is intertwined with basic questions of human being, of our nature and culture. It develops, for the most part, through quiet reflection, with thoughts that move at the speed of lead. Paradoxically, however, it is not velocity, but the ability to accustom oneself to working slowly within density that intensifies consciousness—especially for the student beginning their studies.

In the same way a poet becomes dependent on language, an architect becomes dependent on inanimate objects. Drawing a sphere and placing it on a piece of

paper appears to be an ordinary graphic exercise. Taken seriously, it is an *extra ordinary* accelerator of consciousness. It teaches the student something about relationships, about the effect of one thing on another. In time a student realizes that the object their mind is seeking is not the solid thing in front of their eyes, but our relationship to all things, from the ground where our work is positioned, to the edge of the cosmos. With diligence and patience they learn that in order to bring things to life it is good to not lose touch with the universe.

Two Stories about Ten Years

I would like to conclude with two stories about ten years. The first is the story of Chuang-Tzu, told by Italo Calvino at the Conclusion of his chapter on 'Quickness' in his book *SIX MEMOS for the NEXT MILLENNIUM*.

"Among Chuang-Tzu's many skills, he was an expert draftsman. The king asked him to draw a crab. Chuang-Tzu replied that he needed five years, a country house, and twelve servants. Five years later the drawing was still not begun. 'I need another five years,' said Chuang-Tzu. The king granted them. At the end of these ten years, Chuang-Tzu took up his brush and, in an instant, with a single-stroke, he drew a crab, the most perfect crab ever seen."¹¹

The other story I heard during the first week of my architectural education. It was told that a former Dean of the school was having his office painted. One morning, before class, he was checking on the work and commented that the line between the wall and ceiling was a little wavy. One of the painters, irritated that the Dean was questioning the quality of their work replied that he had ten years experience. The Dean corrected him saying, "No, you have one year of experience ten times."

The two stories point in the same direction. Facility is something obtained by patience and diligence. Intuition is not likely to be found in a naïve approach to software commands. Rather, it is something you earn by your efforts.

Notes:

1 Kornheiser, Tony, 'Steroids Are Getting Me All Pumped Up', Washington Post, May 31, 2002, p. D 1.

2 Ascott, Roy, *The Architecture of Cyberception*. quoted in de Kerckhove, Derrick, *The Architecture of Intelligence* (Basel, Birkhäuser-Publishers for Architecture, 2001), p. 33

"Cyberception not only implies a new body and a new consciousness but a redefinition of how we might live together in the inner space between the virtual and the real."

3 Kepes, Gyorgy, ed., 'Introduction', *The Nature of Art in Motion*, New York, George Braziller, 1965 p. i.

4 Kundera, Milan, *Slowness*, New York, HarperCollins, 1995, p. 39.

5 Judd, Donald, 'Some aspects of color in general and red and black in particular', *Daidalos* #51, Bertelsmann Fachzeitschriften GmbH, Berlin, 1994, p. 46

"In Part VII Albers say to paste a red circle and a white circle on a black sheet of paper and then stare at the red circle. Then, look at the white circle: it is green or blue-green, the complementary of red. Allowing for everything human being subjective, this is absolutely objective. Color as knowledge is very durable. I find it difficult, maybe impossible, to forget".

6 Piano, Renzo, 'The Building Workshop', in Robbins, Edward, *Why Architects Draw*, Cambridge, Mass., The MIT Press, 1994, p. 127

Privandi e Riprovandi, "Trying and trying again—a sort of basic philosophy of experimental work."

7 de Kerckhove, *The Architecture of Intelligence*, p. 52.

8 MacCurdy, Edward (ed), *The Notebooks of Leonardo Da Vinci*, New York: Garden City Publishing Co. Inc., 1941, p. 873

9 Bach, Teja, 'Brancusi: The Reality of Sculpture' in *Constantin Brancusi 1876-1957*, Philadelphia: Philadelphia Museum of Art, 1995, p. 24.

In his early birds (Yellow Bird, 1919) the veining resulting from a preexisting fault in the marble is unaligned, in later works (Bird, 1923-47) the veining becomes an integral part of the sculpture.

10 Brodsky, Joseph, 'An Uncommon Visage', (1987) from the collection of essays, *On Grief and Reason*, New York, Farrar Strauss Giroux, 1995, p. 58.

"Having experienced this acceleration once, one is no longer capable of abandoning the chance to repeat this experience; one falls into dependency on this process, the way others fall into dependency on drugs or alcohol. One who finds himself in this sort of dependency on language is, I suppose, what they call a poet.

11 Calvino, Italo, *Six Memos For The Next Millennium*, New York, Random House, 1988, p.54

Everything I Know About [Modern] Architecture I Learned in School

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Architectural education, and specifically the pedagogy of studio, continues to be influenced by the tropes of modernism even though the practice of architecture has long been inclusive to its critique. The almost exclusive influence of modern architecture on design education has led to an academic stagnation. The myths of modern architecture have been sustained by a lack of self-criticism within architectural education. The educational system continues to uphold the following modern tenets without challenge: the architect as avant-garde artist; architecture as purely an act of form-making; architecture is a-political—it is personal, not social; architecture need not look back, only forward; architecture which preferences the universal over the particular; and, a *tabla rasa* approach to issues of site and cultural context.

The intellectual foundations of modernity in the nineteenth century—guided by the seminal work of Charles Baudelaire—was rich, contradictory, and multivalent. The subsequent narrowing of the focus of modernism in the twentieth century became the model for architectural education. This paper calls for an embracing of the protean origins of modernity in contemporary design education and for a broadening of design pedagogy which embraces conflicting theoretical stances on the discipline of architecture, instead of the reinforcing of a narrow monolithic view.

What is Modern?

Before one can critically examine the pastiche of modern tropes which have come to dominate architectural pedagogy, what constitutes the modern first has to be defined. But how do we define a word commonly used, and yet, anything but straightforward in its meaning? Marxist historian Raymond Williams acknowledges this type of encounter in his book *Keywords*. In this work he notes that the standard dictionary gives only the current use and/or a range of uses of a word, but not its history—

of how its associated ideas and values have changed over time. Williams claims the *Oxford English Dictionary* as the one exception. But Williams warns that one should understand its conditioning as a cultural product of 1880s-1920s; and, that it does not present objective fact, but “that the air of massive impersonality which the *Oxford Dictionary* communicates is not so impersonal, so purely scholarly, or so free of active social and political values as might be supposed from its occasional use.”¹ While Williams provides a historical account of the usage of a word, he doesn’t specifically deal with problematizing its multiple meanings. At least this is the case with one specific word—or, rather, the convergence of a set of words: modern, modernity, modernism, and modernization.

Williams tells us that modern comes from the Latin root word *modo*, which means “just now,” and that its initial usage in English affirmed this meaning. While he notes that modernism and modernity come into common usage in the seventeenth and eighteenth centuries, he says only that they were used in the comparative sense, and that by the nineteenth century they took on a more specialized form referring to art and writing.² So perhaps these terms—modern, modernity, modernism, and modernization—in fact, do affirm a straight-forward dictionary definition and uncomplicated historicization by Williams. If this were so, however, then they would not prove so slippery, so contested to all who use them, with references often unclear or assumed.

Charles Baudelaire, a nineteenth century poet/critic, provides an early and seminal articulation of the slipperiness of the concept of modernity.³ Baudelaire sets up time as the fundamental element of modernity and, thus, reaffirms the Latin root of the word. No matter what modernity is, it happens within the realm of the “just now.” For Baudelaire, we only learn the Truth or the Universal through the just now. The extension and

implication of Baudelaire's definition is not that modernity is a specific time period, the next in a succession of periodizations of (Hegelian) historical progression. Every period is modern. Time and "history" are made up of a succession of just nows, and the periodization of history is fallacious. There is not Antiquity, the Medieval, the Renaissance, and the Romantic period, only a succession of modernities. David Harvey concurs with this assessment and expands upon it:

If modern life is indeed so suffused with the sense of the fleeting, the ephemeral, the fragmentary, and the contingent, then a number of profound consequences follow. To begin with, modernity can have no respect even for its own past, let alone that of any premodern social order. The transitoriness of things makes it difficult to preserve any sense of historical continuity. If there is any meaning to history, then that meaning has to be discovered and defined from within the maelstrom of change, a maelstrom that affects the terms of discussion as well as what it is that is being discussed. Modernity, therefore, not only entails a ruthless break with any or all preceding historical conditions, but is characterized by a never-ending process of internal ruptures and fragmentations within itself.⁴

Whereas Baudelaire provides an open ended conception of the examination of the modern, subsequent authors narrow their field of inquiry and place the different forms of the word(s) into discreet disciplinary realms. Instead of being interchangeable, modernity comes to stand for a way of life, Modernism reified into a Style of Art and Architecture, and modernization as a scientific, technological, and/or economic condition. Even this compartmentalization of these terms is not so neatly drawn; some use the same word with a modifier for indicating different realms (e.g., aesthetic modernity versus economic modernity). The point here is that a holistic notion of modernity (even if this notion is plural and heterogeneous) fragments into multiple modernities.⁵ These multiple modernities can be explored either temporally in a linear fashion or thematically—with overlap occurring in both categorizations. For example, Marshall Berman's linear history of modernity is broken up into three phases.

1) The sixteenth to the eighteenth century: embodied in the figure of Jean-Jacques Rousseau and characterized by "agitation and turbulence, psychic dizziness and drunkenness, expansion of experiential possibilities and destruction of moral boundaries and personal bonds, self-enlargement and self-derangement, phantoms in the street and in the soul"⁶;

2) The French Revolution to the twentieth century: characterized by the tensions of a combined presence of the memory of the past and tradition in the context of the landscape of modernity (e.g., steam engines, factories, railroads, industry, cities, corporations, etc.). This dialectic of nineteenth century modernity, Berman asserts, embraces and rejects its trappings (e.g., Marx heralds the bourgeoisie for bringing about the break from the feudal past into the modern and then attacks them as an impediment to the ultimate fruition of modernism: i.e., communism).

3) The twentieth century: characterized by its specialization and closing off with "rigid polarities and flat totalizations . . . it is conceived as a closed monolith, incapable of being shaped or changed by modern men. Open visions of modern life have been supplanted by closed ones, Both/And by Either/Or."⁷

An alternative to Berman's historical—and almost too cleanly packaged—look at modernity is to trace it out thematically: as a way of life, as aestheticism, and as scientific and/or technological. In the discipline of architecture—particularly as practiced and taught in the twentieth century—what seems to reign are both aesthetic modernism and scientific modernity; or, in Robert Venturi's parlance modernism is usually practiced as Either/Or rather than Both/And. Modernity as a way of life, as characterized by Baudelaire, is left out of the equation.

Aesthetic Modernism

So if modernity as a way of life is too amorphous and ambiguous and perhaps ambitious way in which to engage architecture, then how is aesthetic modernity circumscribed? The responses vary as do their authors, but all commonly situate their discussions in the arts. At one extreme is the reduction of modernism to matters of technique, most ardently advocated in the writings of art critic Clement Greenberg and practiced in the

abstraction and flatness of painters like Claude Monet and Jackson Pollock.

At the other end is the work of T.J. Clark. Clark honestly remarks in his book, *The Painting of Modern Life*, “‘Modernism,’ finally, is used here in the customary, somewhat muddled way.”⁸ He textures his version of aesthetic modernity around the issues of class, the spectacle, and ideology and acknowledges that these are all constructs upon which the representation of modernism in art (in France) basis itself.

Christopher Butler provides a different and more focused take on aesthetic modernism. While he too eschews (like Clark) the notion that modernism is merely experimentation with technique or language, he locates aesthetic modernity in the individual artist/genius and specifically in the mental realm of that genius. The individual’s journey (and particularly those individuals at the margins of society) via the unconscious to personal expression defines this aesthetic modernity. The primacy of the subjective experience, and thus the relative condition of the world, characterizes this type of modernism. Innovation and the new springs from the personal, the emotional, and the particular.

Scientific Modernism

Aesthetic modernity as described is the most protean because various scholars define it as embracing *and* rejecting the individual and the social, the marginal and the central, the rational and the emotional, the subject and the object, the autocratic and the democratic, the fragmentary and the unified, the withdrawn and the immersed, the particular and the general. Betwixt this aesthetic modernity is the more singularly defined ‘scientific’ modernism, nascent in the Enlightenment and continuing up to the World Wars. Characteristics of this type of modernity include: positivism, the rational, a belief in linear progress, absolute truths, ideal social orders, standardization, and the idealization of the machine. Authors use modernity in this sense eventually to describe the industrial and economic forces at work in the modern Western world under the moniker of modernization; but its nascent connections are with that of the Enlightenment.

The term Enlightenment is most commonly invoked in reference to a period in European intellectual history which built upon the scientific revolution of the seventeenth century. This “Age of Reason” marked the elevation of reason and science over metaphysics and religion. The Enlightenment was not merely a scientific

revolution but a social one as well, in which correlations between moral behavior and natural laws (and both supporting the idea of progress) held sway among figures as diverse as Jean-Jacques Rousseau, Jeremy Bentham, Adam Smith, and Auguste Comte. The Enlightenment marked the rise of a secularism which sought to divorce thought and society from mystification and sacrilization, to break with history and tradition, and to embrace the idea of progress in order to liberate humanity.

While the Enlightenment is a period in history marked by certain intellectual attitudes, the Enlightenment Project is a set of ideas promoted by the discourse of modernity in the eighteenth, nineteenth and twentieth centuries which sought to promote the values of the Enlightenment—equality, liberty, faith in human knowledge, universal reason, freedom, and democracy—in order to establish a universal culture which was secular, rational, humanitarian, and progressive. The Enlightenment Project—espoused by Western thinkers on both sides of the Atlantic such as Marquis de Condorcet and Thomas Jefferson—followed along the axiom that for any given inquiry there is only one possible, right answer. From this it followed that a controlled and rational picture of the world could be eventually represented. It was just a matter of time of asking the right questions, and finding *the* answers.

How does this intellectual history of modernity play out in the late twentieth century and early twenty-first century architectural studio curriculum? Even though some students might be exposed to these ideas in their supporting course work, most often the legacy of modernism creeps into the studios unstudied and unquestioned.

The Architect as Avant-Garde Artist

There is a strong and powerful arm of modernity which has embraced the ideal of the avant-garde with such a tight grasp that it at times has become a chokehold. As referenced above in the writing of Butler, this type of aesthetic modernism reveres the unique as personified in the genius of the individual *artiste*. The architect as artist lays claim to the act of creation which cannot be reproduced by client or builder; thus, adding an aura of mystery to the design process independent of anything but individual talent. It is not only aesthetic modernism which elevates the architect to artist, but also the legacy of romanticism which equates artistic creation with divine creation and assumes that the art object is infused with the spirit of the artist, thus making it one-of-a-kind

and not replicable. When applied to the built environment, this leads to the obvious conclusion that all buildings begin and end with the individual and there is nothing to be gained by looking outside of oneself in the process of design.

The tenets of aesthetic modernism which exalt the avant-garde permeate design studio by privileging: 1) architecture as an art which preferences the new or unique over quality and criticality; 2) promoting the cult of the heroic individual set against society rather than defined in it; 3) abstract expression of personal creative genius rather than the figurative expression of cultural values; and 4) the elevation of signature talent which excludes the study of the normative.

These ideas are fostered both informally and formally within the curriculum. Casually, students listen to apocryphal stories about signature architects whose singularity of vision and intuitive genius is set against rule-bound naysayers. The artistic persona carried by Frank Lloyd Wright is consistently reinforced by the story of Wright demonstrating the stability of the golf-tee shaped columns of the Johnson & Son Administration building in defiance of the Wisconsin state building codes. Lecture series attempt to get the “big names” to come to their schools. While these lectures can be exciting, they, nevertheless, reinforce that those who matter in the design of the built environment are the select few. Students get the message and join this hero worship instead of being exposed to the design process and product of the quotidian architectural practice. Can there not be room for both?

Finally, pedagogically in design studio, problems are given which encourage the design of the architectural art object: often free of site specific constraints, favoring abstraction over representation, and culminating in a sculptural object. Students join the cult of the artist by making every building a work of art and don't learn to design a hierarchy of buildings—a hierarchy more representative of the built environment which ranges from the ordinary to the extraordinary. Their studio experience fosters an adherence to a Nietzschean individualism in which emphasis is placed on artistic freedom and inner psyche rather than on civic virtue and cultural specificity.

The reality is that few architects carve out a place for themselves as artists. The majority of architects will develop a design practice that has nothing to do with the cult of the *artiste* that they experienced in school. Most, in fact, will be dealing with the social nature of

architecture—architecture which comes out of a specific time, place, culture and tradition. Concepts which are ignored as irrelevant under the aegis of aesthetic modernism.

Architecture as Form-Making

A corollary to aesthetic modernism's advocacy of the architect as artist, is that architecture is an act of form-making. Again, these ideas permeate the studio environment by reinforcing: 1) architecture as a pure art; 2) that architecture exists outside of or above cultural, social, historical, and political contexts; and 3) abstraction over representation.

If architecture is promulgated as a pure art then it substitutes itself for the other arts and can become them. In other words, architecture can be purely sculpture; to wit, Frank Gehry's museum in Bilbao. Instead, architecture should be seen as the mother of the arts,⁹ one which engages all of them—painting, sculpture, drawing, photography—at various points of both design process and product. As the mother of all arts, architecture should not be seen as removed from cultural specificity in favor of individual genius, but as culturally bound. Instead of reinforcing studios in which design problems are seen as private, personal investigations, design pursuits should acknowledge the social context and advocate civic responsibility. In order to do so, exercises in which students are given a kit of parts that are highly abstract (planes, lines, points, boundaries, edges, centers) and taught to develop abstract forms related to perception, composition and structure should not be the end product. Abstraction should only serve as a warm up exercise with the next step being the development of an architectural grammar in which forms and meanings are related to and embedded in one another. Schools of architecture should finally heed the postmodern cry for meaning by substituting abstractions and universalism for the particular, so that students understand that their designs will not be a-political, a-social, and divorced from culture, history, and style.

It is in form-obsessed architectural problems that both the tenets of aesthetic modernism and scientific modernism thrive. It is the theory of design espoused from the pulpit of Modernism with Johnson and Hitchcock presiding over the benediction in which students are: taught to believe that architecture is based on principles which transcend culture; taught that the best architecture is not a style but independent of style; taught a-historically—that is, taught that history is

something they are outside of rather than as integral to an understanding of and the design of the contemporary built environment; taught that tradition and the normative condition are *retard de tare*; and, taught to sustain the myth that honest expression of materials and abstraction are adequate tools to provide architectural meaning. For all of the insistence of the importance of program in Modern architecture (usually related to the espousal of a functionalist credo) where is the attempt to integrate the understanding that form has a history and tradition in which one can find symbolic significance?

In these design studios, students are given virgin sites which make no acknowledgement either to the existence of genius loci or an understanding of nature as a cultural phenomenon. Studio critics set projects so that issues that challenge a belief system in Modern architecture simply don't come up. Abstract projects focus on either individual expression or the universal applicability of spatial composition and leave behind a rich integration of type, meaning, and social purpose. All too common is the design problem in which students are asked to create a sacred space and then given iconographically and symbolically impoverished programs which consist of the design of non-denominational chapels located nowhere in particular.

Modernism gets an often deservedly bad rap because the advocates of a narrowly circumscribed modernism have held sway in twentieth century. Where are the complexities and nuances within the architectural studio curriculum that comprise the intellectual history of modernity? While the core project of postmodern thought is prevalent in supporting course work, it has either failed to trickle down into studios or has commandeered them to the opposite extreme. Studios outside the norm, such as the late Samuel Mockbee's Rural Studio, are just that—aberrations and idiosyncrasies existing in spite of the dominant architectural culture. They will remain on the margins as long as debate and criticism within the architectural studio systems remains either stagnant or peripheral.

Notes:

- 1 Raymond Williams, *Keywords* (Oxford University Press, 1976), p. 18.
- 2 The following quotes the major passages of his one page entry, for reference: "A conventional contrast between ancient and modern was established before the Renaissance; a middle or medieval period began to be defined from fifteenth century. Modern in this comparative and historical sense was common

from late sixteenth century. Modernism, modernist and modernity followed, in seventeenth and eighteenth century; the majority of pre-nineteenth century uses were unfavorable, when the context was comparative. Modernize, from eighteenth century, had initial special reference to buildings...; spelling...; and fashions in dress and behavior... The unfavorable sense of modern and its associates has persisted, but through nineteenth century and very markedly in twentieth century there was a strong movement the other way, until modern became virtually equivalent to improved or satisfactory or efficient. Modernism and modernist have become more specialized, to particular tendencies, notably to the experimental art and writing of c.1890-c.1940, which allows a subsequent distinction between the modernist and the (newly) modern." Williams, p. 208.

- 3 "By 'modernity' I mean the ephemeral, the fugitive, the contingent, the half of art whose other half is eternal and the immutable." — Charles Baudelaire, *The Painter of Modern Life*
- 4 David Harvey in *The Condition of Postmodernity*, p. 11-12.
- 5 The following are just two examples: Marshall Berman says, "Current thinking about modernity is broken into two different compartments, hermetically sealed off from one another: 'modernization' in economics and politics, 'modernism' in art, culture and sensibility." (*All That is Solid Melts Into Air*, p. 88). And Matei Calinescu says, "Modernity in the broadest sense, as it has asserted itself historically, is reflected in the irreconcilable opposition between the sets of values corresponding to (1) the objectified, socially measurable time of capitalist civilization (time as a more or less precious commodity, bought and sold on the market), and (2) the personal, subjective, imaginative *durée*, the private time created by the unfolding of the 'self.' The latter identity of *time* and *self* constitutes the foundation of modernist culture. ... The end result of both modernities seems to be the same unbounded relativism." (*Five Faces of Modernity*, p. 5)
- 6 Berman, p. 18.
- 7 *Ibid.*, p. 24.
- 8 T. J. Clark, *The Painting of Modern Life* (Princeton University Press, 1984), p. 10.
- 9 The phrase "Mother of Arts" is borrowed from Steven Hurtt, Dean of the School of Architecture at the University of Maryland based on conversation in Spring 2002.

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