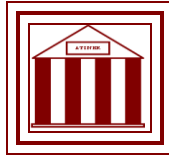


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**Hybridized Pedagogies:
Architectural Education in
Motion**

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Dr. Gregory T. Papanikos
President
Athens Institute for Education and Research

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Hybridized Pedagogies: Architectural Education in Motion

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Abstract

Twenty-first century experiments in architectural pedagogy are beginning to increasingly take steps towards the hybridization and critical cross-communication of the sciences, arts and humanities. The blurring of these boundaries now allows us to see architecture as a body of knowledge that participates in a long-term and deeper transformation of society. This paper will examine three emergent pedagogical typologies that exemplify innovative methods of generating research, the results of which are made accessible to the larger public, which in turn expands the boundaries of architectural practice. This examination will be conducted by identifying three uniquely structured entities, each a hybridized condition where partnership, collaboration and exchange represent the core of their makeup. Each of these entities has established an innovative relationship between academia and practice, while expanding and cultivating new audiences for the research they conduct.

The current challenges that permeate the culture of architectural education are due in large part to the crisis of a quickly changing world, which is at odds with the evolutionary slowness of educational models. As a means of addressing the pace of contemporary society, new institutions are exploring models of lightness, speed and fluidity. Strategic global networks, academic research programs nested within established professional practices, and parallel practice / research endeavors are the core characteristics of these new models. The Center for Architecture Science and Ecology, OMA/AMO and GSAPP's Studio-X are the three models that will be examined. The paper will make explicit the unique research being conducted by each of these three entities and will establish how this research is changing the relationship between academia, professional practice, and the larger public's understanding of the architectural discipline.

Keywords: Pedagogy; collaboration; research; experimentation; hybridization

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Introduction

In the twenty-first century, unprecedented pedagogical structures are beginning to emerge in architectural education. These experimental models are moving with greater flexibility and speed, allowing for a greater inclusiveness of questions that are crucial for architects to begin to engage the world at the outset of this century. The organizations of CASE, OMA/AMO and Studio-X are beginning to provide supplemental or alternative visions of how architectural knowledge can be taught and practiced. They are conceived as ways of expanding the frame and scope of possible methods of teaching, practicing, and consequently making apparent architecture's larger role in culture and society. In *Architecture School, Three Centuries of Educating Architects in North America*, editor Joan Ockman establishes a precise framework in which to understand the current condition of architectural education and practice. In her introduction, she makes clear the historically contentious relationships between the two, and identifies some of the most pressing challenges facing contemporary architectural education.

Architecture schools are undergoing far-reaching transformations in the early twenty-first century. Globalization, digital technology, and an increasingly market-driven education economy are among the powerful forces shaping academia. Natural and man-made disasters have also played a part over the last decade, focusing the attention of educators on environmental change, the technical performance of buildings and their representational role. (Ockman 2012, 10)

This extensive book makes explicit the challenge of contemporary education's struggle to keep pace with many new challenges that face the discipline at the outset of this millennium. The previous quote echoes the fact that we currently face great societal, environmental and economic pressures, and as such, we are now forced to rethink the way we teach the discipline of architecture. We have shifted from an era in which an architect is one who masterfully designs discrete objects, to a citizen who engages larger sets of systems and forces. The expansion of the frame of our discipline has allowed us to participate in the direction of how we choose to form not only our physical environment, but also to become an operative participant in the formation of society's larger philosophical and cultural aspirations.

This paper will proceed by exploring specific types of pedagogy, research, and the possible ways these structures can be made apparent in the world. The paper will progress by articulating three challenges facing architectural education and practice, followed by an identification of three experimental pedagogical models, which are currently addressing these challenges. In order to understand how each of these pedagogical models is structured, the paper will examine closely the hybridized and collaborative frameworks of each. Ultimately, it will be established how each model makes their research and knowledge apparent in the larger cultural arena, as a means of effectively

connecting architectural knowledge to a broader and more diverse public.

Contemporary Questions of Pedagogy, Research and Visibility

In his essay “Education By Infection” (Groys 2009), art historian and cultural critic Boris Groys speaks of the delicate paradox involved in effectively educating art students. He articulates the need to simultaneously separate and immerse students into the larger flux of society. This notion of creating a highly concentrated academic environment for art students, while also exposing them to external social and cultural forces, echoes a similar conundrum within the context of contemporary architectural education and practice. This condition is reflected in the challenge of providing architecture students the proper balance between a highly concentrated environment of independence, while also exposing them to the multitude of challenges and opportunities that lay waiting outside the doors of academia.

One of the core struggles of current architectural education involves establishing precise pedagogical methods, which allow for a dynamic exchange of knowledge and experience. Arguably, the ideal strategy for generating new knowledge is to create a precise balance between autonomy and engagement, internal desires and external resistance, unfettered exploration and definitive limits. This process is perhaps most exemplified in the context of conducting research. Within the context of architecture, research is often seen as exclusive knowledge generated within the narrow confines of academia or professional practice. This model of exclusivity and concentration can be productive and appropriate at times, but if not moved beyond its small confines, the model runs the risk of remaining separate from a larger context, and may suffer from eventual irrelevance.

As a counter to this condition, new modes of architectural research are currently evolving to create and benefit from opportunities of collaboration and exchange as a means of achieving a higher caliber of innovation and discovery. In each of the following scenarios, the experimental pedagogical models blur the lines between academia, practice and the broader cultural landscape. Each of these ongoing experiments seeks to expand and deepen the capacity for architectural thinking to have a greater impact on society.

Three Existing Problems / Three Emerging Pedagogical Responses

Three primary challenges face the integration of academic and practical architectural knowledge as it relates to the larger social fabric. These challenges are addressed with respect to the corresponding pedagogical entities that have been actively seeking ways to propose possible solutions.

1. The first challenge has been identified as the separation between education, practice and the industrial sciences. The Center for

Architecture Science and Ecology (CASE) was formed as a partnership between an academic program (RPI) and professional practice (SOM), and is actively moving to blur the division between students, educators, practitioners and industry specialists.

2. The second challenge has been identified as the separation between architectural practice and its role in broader cultural participation. AMO, established as the research arm of OMA, has contributed directly to work that has been realized in the built environment, while also generating research for purposes beyond the conventional boundaries of architectural production.
3. The third challenge has been identified as the separation between localized academic study and global urban culture. To ameliorate this schism, Columbia University's Studio-X has evolved into a highly responsive, light and dynamic feedback system, between a fixed location of a central campus and multitude of cities around the globe.

These three pedagogical frameworks allow for the necessary speed and flexibility to both absorb new developments in the related fields of the sciences, arts and humanities, while also engaging the public in new and dynamic ways. While the make up and mission of each entity differs, they are all linked in that they each have identified a problem and have established a pedagogical structure with which to address it. Each entity has also fostered collaborative exchanges to perform experimental research with the goal of having it broadcast to a wider arena.

Center for Architecture Science and Ecology

CASE is a partnership between Rensselaer Polytechnic Institute's School of Architecture and the offices of Skidmore Owings & Merrill LLP. Simultaneously situated within the New York office of SOM and the campus of Rensselaer, CASE has emerged as a dynamic experiment where students, educators, practitioners, scientists and industrial specialists share a space of common inquiry. Founded in 2009 by architect and educator Anna Dyson, CASE has evolved to serve as a nexus between academic research, professional practice and the industrial sciences. Sensing the gap between education, practice and technological innovation, she founded a model that would create an immediate opportunity for an academic institution and professional practice to mutually benefit from direct linkage. The faculty is devised of a diverse set of individuals ranging in background and expertise. The broad base of knowledge associated with such a structure allows for effective communication between the many players that are involved in the sophisticated and complex projects in which they participate.

Motivated by the desire to address problems of intelligent energy use in the built environment, CASE has selectively contributed to the realization of

built projects in the office of SOM. These projects serve as a testing ground for much of the innovative research conducted by CASE. To gain a clearer sense of the radical nature of this pedagogical model, it will serve us well to focus in upon one of the many collaborative efforts between CASE and SOM.

In late 2012, a momentous step was taken in furthering CASE's stated mission. To educate the public on the possibility of the intelligent use of energy in buildings, SOM has recently broken ground for New York City's first Net Zero Energy School Building. CASE served as a consultant in tandem with various other professional specialists including environmental consulting firm In:Posse, which provided other components of expertise.

Scheduled for completion in 2015, the project specifically makes use of the extensive research that CASE has been conducting in solar thermal systems for hot water, and intelligent facade design. SOM's Education Lab was able to implement aspects of this research into the project, leading to a radically different way for the building functions to be experienced by its inhabitants. The technical intricacy of the building is beyond the scope of this paper. Instead, the emphasis here is placed upon the collaborative nature of the project.

CASE's primary role in the project was to serve as a meta-consultant, overseeing and testing the overall integration and use of energy. Their critical role included the analysis of the solar thermal hot water array, and the analysis of maintenance requirements, dust and snow loading on the PV and solar thermal arrays. In addition, they conducted day lighting studies for achieving glare-free classrooms, and provided a critical analysis of the net zero energy evaluation framework and the energy goals of the school. The impact of CASE's research and participation in this project can be seen in the before (Fig 1) and after (Fig 2) images of the project. There is a clear and definitive transformation of the project from its initial phase to that of CASE's involvement. Chris McCreedy, AIA, Director of SOM's Education Lab and project manager of P.S. 62, has stated:

Reaching the ambitious goal of net zero energy consumption would not be possible without the collaboration of our consultants... We'd like to recognize all the members of our project team for their contribution: In:Posse, AKF Group and Center for Architecture Science & Ecology. (McCreedy, SOM News)

The project is conceived as a highly collaborative endeavor between a diverse set of interests, and serves as a critical step in New York City's move towards a more sustainable and intelligently designed environment. The results that emerge from the experimental nature of this particular project could prove to have a far-reaching impact on the future of how schools, and eventually many other building typologies are realized in the city.

Figure 1. *P.S. 62 Net Zero Energy School, before CASE analysis.*



Source: (SOM and CASE 2012)

Figure 2. *P.S. 62 Net Zero Energy School, after CASE analysis*



Source: (SOM and CASE 2012)

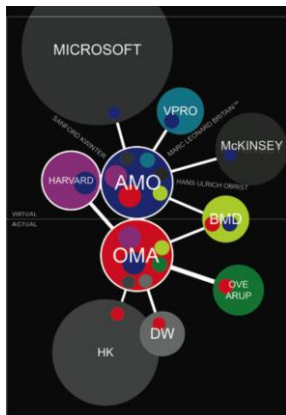
In CASE's three years of operation, they have received support from the NYSEDA, the DOE, the NSF and the NYSTAR. The research is being made visible in the world by its implementation in built projects. Problems of built ecologies are critically tested and explored by teams of students, educators, practitioners and industry specialists. Built in the physical landscape and put to practice, this model accelerates the speed between experimentation and realization. Perhaps the single most important aspect of this building is its program of an elementary school. As an intelligent object, the building also becomes a pedagogical tool that has firstly benefited the undergraduate, graduate and doctoral students who have collaborated on the related research applied to the building, and secondly, will benefit the future students who will inhabit the building. In each case, an opportunity is presented to understand something about a possible future of collaborative efforts and fostering a more intelligent future.

In *The Three Ecologies* (Guattari, 2008) philosopher Felix Guattari articulated the three ecological threads that need to be woven together at the outset of the twenty-first century. They were defined as environmental, social and mental ecologies. The broader collaborative research of CASE, and this project in particular, manages to approach the question of integrating these three forms of ecology, by virtue of the collaborative nature of the project and the impact that it will continue to have, upon completion.

OMA/AMO

If we consider the structure of research and practice as proposed by the CASE / SOM model, we can begin to see the dissolving of exclusionary boundaries between education, research and practice. Another pedagogical model which has been unfolding for over a decade with the intent of eliminating such boundaries is that of the mirrored practice/research model of OMA/AMO. Established in 1998 by OMA partners Rem Koolhaas and Reinier de Graaf, AMO emerged as a parallel think-tank of OMA with the mission of dynamically engaging both the challenges and opportunities of globalism. At the international cross-disciplinary conference *Anything*, held in 2000, Koolhaas publicly announced the ambitions of AMO (Koolhaas, “The Regime of ¥€\$”). He articulated the complex network of connections between a disparate set of figures, both within and outside of the academic and professional boundaries of architecture. Hosted by the Guggenheim Museum in New York City, the context of his declaration was ideal as it was the last conference of the decade long experiment which consisted of an annual series of exchanges between architects, artists, educators, curators, economists, social scientists and philosophers. Koolhaas, during his presentation at this event, articulated the conceptual underpinnings of this new experiment (Fig 3), which proposed a radical reconsideration of the relationship between academia, practice and a variety of other individuals and institutions, which reside beyond the boundaries of architecture.

Figure 3. *Diagram of OMA/AMO*



Source: (OMA)

Since that moment over a decade ago, much has changed within the practice of Rem Koolhaas in particular, with architecture in general, and with culture at large. Given this condition, it will prove effective to extract a single OMA/AMO project in order to better understand the specific manner in which the experiment contributed to new perceptions of architecture as an active cultural participant.

The 2006 Serpentine Gallery Pavilion in London was a collaborative effort between Koolhaas; engineer Cecil Balmond with Arup, and curator Hans

Ulrich Obrist. The larger conceptual mission and impact of AMO are made manifest in the particular dynamics of this project. While small in scale - relative to many of the larger built works of OMA - the significance of this project cannot be overstated. Conceived as a lightweight, inflatable, temporary pavilion, its main agenda was to act as a space to host a series of diverse, fluid and transient events. One programmatic layer of the project of particular interest was a series of sixty-six interviews conducted over a twenty-four hour span of time in the presence of a continuously changing audience. Koolhaas and Olbrist conducted these marathon interviews with “leading politicians, architects, philosophers, writers, artists, film-makers and economists... exposing the hidden layers of London.” (Obrist and Koolhaas 2012, 11)

The ability of the pavilion to make visible, hidden or latent conditions is the core of the project’s radical composition, and this serves as an important example of architecture imbedding itself within a larger social matrix. By adopting certain artistic techniques such as the surrealistic strategies of sleep deprivation, games of chance and informal staging; architecture becomes an event where lines of normality are blurred, reimagined and sometimes erased all together. Inhabitants become actors in a play of unfolding events in a game of architectural exquisite corpse.

This pavilion challenges the conventional notion of the stabile and static object, and instead presents architecture as a dynamic frame which initiates, provokes, enables and encourages new relationships. It is meant to be seen, experienced and connected in unexpected ways. Due to its experimental and speculative nature, this particular project provides a model for architects to begin to understand how to remain an active participant in all phases of an architectural endeavor, from the earliest stages of conception through its realization and its dissemination into a larger cultural sphere. This model represents a dynamic loop, which has helped to establish a precedent by showing how radical architectural thought can remain visible through the lifespan of a built work. It challenges the conventional notion of the architect as a mute actor, who merely provides a service where static objects are delivered to satisfy predetermined goals and expectations.

In the post-life of the pavilion, the dynamic exchange of interviews led to a detailed documentation and related publication, *London Dialogues* (cited above). This document is the most recent in a long line of complex collaborative publications devoted to AMO’s research, including the three Harvard related books, *Project On The City 1, Great Leap Forward* (Chung, Inaba, Koolhaas & Leong 2001), *Project On The City 2, Harvard Design School Guide To Shopping* (Chung, Inaba, Koolhaas & Leong 2002), *Mutations* (Koolhaas, Boeri, Kwinter, Tazi & Obrist 2004), and *Project Japan: Metabolism Talks* (Koolhaas and Obrist 2011). The pavilion, publications and a multitude of other related exchanges stand as a testament to the success of OMA/AMO’s earliest mission of establishing a set of complex linkages between many individuals and institutions across geographical, institutional and disciplinary boundaries.

Studio-X

Founded in 2008, Studio-X began as an initiative by Columbia's GSAPP Dean, Mark Wigley. In contrast to the fixed nature of the main campus, Studio-X was imagined as a constellation of mini think-thanks, which are strategically situated to form a global network of knowledge. The ultimate mission and goal is to contribute to the erasure of boundaries separating localized education and global knowledge.

In the context of Studio-X, it may be more fruitful to look not at a single project, but to its overall mission and organizational structure. Similar to Koolhaas's observation about the speed of globalism and the relative slowness of architectural practice, Wigley observed a similar phenomenon as it relates to globalism and architectural education. In the mission statement of the project, he defines the program as "a dynamic space that evolves at the same speed as the urban environment itself" (Wigley, *About Studio-X*). The objective is to grapple with some of the challenges and opportunities afforded by the complexity of globalization. The lightness of these programs allow for a smaller footprint and greater absorption of new knowledge and new modes of practicing and disseminating this knowledge.

The radical nature of the program allows for an expansion of the boundaries of education, and also allows a much wider audience of participants and players. The mobile structure opens itself to many forms of intelligence held by figures both within and outside of the architectural discipline. Much like AMO, the mission of Studio-X is based on a model of complex and unlikely cross-pollination, with the desired outcome of newly emerging mutations. The program is constructed of nebulous relationships and shifting contexts that challenge the conventional balance between a centrally fixed base of power and peripheral obedience. They are essentially working to level and expand the field of play. With locations in seven cities around the world, including New York, Mumbai and most recently Tokyo, the program ensures that it has the ability to both see and hear, while being heard and seen in every part of the globe (Fig 4).

Figure 4. *Diagram of Studio-X,*



Source: (Columbia GSAPP)

Conclusion

In her essay “*The Thing Seen*”, writer and educator Ann Lauterberg states that art education is “more critical to the vision and fabric of democratic social space than ever before” (Lauterberg 2009, 97). The implication of this statement for the discipline of architecture is vast and speaks to the current goals and aspirations of countless students, educators and practitioners alike. Given the vast challenges facing us all, it seems only appropriate that the diversity of research and the related knowledge of architecture, be more intricately woven into a world of ever-increasing speed, immediacy and complexity.

By attempting to understand three uniquely structured experimental entities, a number of directions and models have been established that may prove instrumental in understanding a possible future of education, practice and the larger public’s understanding of architectural knowledge. Each of these three institutions has sought to make new connections between the speculative knowledge that unfolds within the walls of academia and practice, by bringing this knowledge into a larger cultural and social domain.

The means and methods of each entity are diverse, as exemplified by OMA/AMO’s complex networking of academia, practice, media and the many ways of implicating a larger audience of participants; by CASE’s strategy of weaving expertise and knowledge between, students, educators, practitioners, scientists and industrialists with the single aim of improving the relationship between architecture and the inhabitants of cities around the globe; and finally by Studio-X’s innovative vision of projecting architectural education into the global landscape. Despite the differences, all three share a common desire to see architecture expand and to deepen its societal role in the early twenty-first century.

The unique expertise that architects possess has been brought into to the realm of partnership, collaboration and exchange. As a result, the territory of architectural inquiry is vastly expanding. There now exists in pedagogy a provocative notion of hybridization, of merging, blurring, or eliminating traditional distinctions between academic knowledge, professional practice, architectural production and architectural research. This necessarily establishes architecture simultaneously as a specialized discipline and a cooperative participant in a larger cultural terrain.

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