

Interdisciplinism, Competency, and the Thesis Experience

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ABSTRACT

The required final year thesis studio in many schools of architecture is in need of complete reappraisal. The explosion of knowledge combined with the increasing complexity of global problems calls for new curricular vehicles to inculcate in the fledging architect a more profound respect for the potential contributions of other disciplines beyond architecture, including those frequently considered to be remote from architecture. Despite this, in most schools the thesis experience continues to be an autonomous, independent excursion for students and faculty alike. An alternative paradigm is proposed whereby the final year thesis studio experience allows for and encourages working in a team setting with students from allied design disciplines as well as non environmental design fields in the making of a more critically, culturally, and socially engaged architecture. In so doing, interdisciplinist pedagogies hold the promise of fostering a rise in the professional status and competency level of the architect.

Introduction

The thesis experience has traditionally consisted of a solo performance—a purely individually based rite of passage. Functioning as a waystation, the final studio links the world of the academy to the “real” world beyond. While a required thesis project does continue to function as a viable curricular component and as a means to measure individual competency, an overarching emphasis on work produced by one individual in this annual ritual, however, tends to foster an insular, somewhat myopic worldview in the student. What is, and what is not, appropriate “territory” in the penultimate studio experience usually centers on how far one’s explorations can inform one’s own work as a soloist. Students are encouraged to stretch themselves intellectually, but only insofar as one can do so while working alone.

The tendency in this operative scenario is for the final studio thesis experience to become overly inward-focused. Autonomy is the dominant emphasis. The student is encouraged to think and act alone and may, by default, end up with a thesis project expressive of, in the worst case, superficial misapplications of current architectural discourse. The student functions as an unguided missile, filled with energy and much potential, yet ultimately the fruits of one’s labor can be easily way off target and of little interest or value to anyone. Recently, the dangerous nature of the present situation has been expressed in numerous critiques of the field. At the conclusion of the Boyer Report, Lee D. Mitgang stated that the academic and professional lives of architects must be grounded in a sense of public purpose. Citing the three Vitruvian principles of firmness, commodity and delight, Mitgang argues for architects to rededicate themselves to producing:

“...Technically sound, visibly pleasing, and useful structures for clients and users, and equally, to making life more comfortable, pleasurable, secure, and productive for all citizens, including the disenfranchised...the scholarly activities of both faculty and students should relate not only to private goals and agendas, but to matters of consequence...to society as a whole. No less important than acquiring design skills, technical competence, and business judgement, education must begin to help students develop the ethical grounding, the intellectual roundedness, and the maturity to weigh the impact of their work...”¹

The thesis experience in architecture is in need of thorough reappraisal for multiple reasons. First, society’s

perceptions of architects, and the resultant social status accorded architects, are undeniably on the wane. One reason this has occurred has been the recurrent waves of circuitous debates on whether or not the field of architecture is primarily an academic discipline, or a purely applied profession, when in reality, it should be a seamless blend of both. In the case of architects’ proposals for the rebuilding of the World Trade Center site in the aftermath of 9/11, this schism, this tear in the fabric, between the expectations of architects and those of the general public was fully revealed. Has this dilemma occurred due to the method of how architecture and urbanism is taught in American colleges and universities? Or, is this schism due more to an absence of a demand for excellence, combined with the limitations of those who have supposedly been trained to provide excellence in the planning and building of the public realm? Sarah Williams Goldhagen writes:

“On the demand side, it has been years since corporations and the public sector have insisted upon or even pretended to patronize very good, much less excellent, architecture. On the supply side, the paradigms by which many architects have been trained to frame design and urban planning problems will make it more difficult for them to generate a compelling vision for a site like that of the World Trade Center. Their training has not prepared them intellectually to think about how to create a captivating...symbol...Given the lack of preparation of the most of the students, architecture schools are put in the impossible position of trying to teach the engineering, technology, and sociology of architectural and urban design, the business and politics of practice, and its art. As a result, architecture schools must make compromises. For most top programs, that compromise has entailed a curriculum overwhelmingly concentrated on design at the expense of (other) issues that greatly affect the field.”²

Second, the architectural profession tends to underestimate the potential of the thesis experience as a pedagogical tool, dismissive of the thesis year as little more than a normative rite of passage: the final studio, and little more. As Martin Symes and Andrew Seidel point out, the disjunction between the expectations of the profession and those of the academy are as old as architectural education itself. The ongoing debate about what the architect should know and how one should learn it has manifest in agendas—at times hidden—fostering the development of, at one ex-

treme, an elite, at the other, the social engagement of the general public in design activities.³ Symes and Seidel conducted a survey in the United Kingdom to learn of architects' attitudes towards their education, and found that the substantial majority of the 610 respondents believe many aspects of their education were unsuited to their current professional needs.⁴ While a fuller summary of this timely study is not possible here, the authors concluded:

"It is partly a question of who within the university will take on the task of developing the knowledge base for the provision of a physical environment for clients, people, etc. If the architects do not, someone else will do it. Some group will always be legally sanctioned to build the physical environment...but of whom will that group be composed?...Architecture's problem is that what happens in universities is so removed from what happens in practice. In university the focus often seems to be on developing the imagination and creativity but in practice it is on client service and the rational application of knowledge...will traditional teaching methods have to be abandoned?"⁵

Third, the thesis year/studio tends to be disconnected from the rest of the curriculum "below" it, or, perhaps more aptly restated, isolated from the student's preceding coursework. The issues addressed in a thesis can be of a far more diverse nature in comparison to one's prior studio courses. For the first time one is expected to define the topic, the issues, and the means to arrive at an acceptable conclusion. The intellectual and curricular autonomy of thesis, however, may cause the bewildered student to fall back on safe tendencies, sticking to well-traveled roads. And in so doing, larger concerns for the well being of the discipline, the profession, and the community-at-large may be obliquely addressed, even entirely dismissed.

It is arguable that a large portion of architectural knowledge is tacit: students learn from observation rather than from being told. The studio instructor possesses knowledge and imparts this knowledge primarily by example and by coaching.⁶ Today it is unacceptable to simply assert one's status and expertise. It must be backed up by substantive knowledge. Typically, this consists of a clearly defined, coherent, visible, even replicable, research-based body of knowledge. Lacking this, the profession of architecture has found itself at a disadvantage in comparison to other fields and with questionable status as a profession.⁷ This fact continues to be a strong justification for the importance of architectural and environmental design research, and for research-based design paradigms in the schools and in the profession.⁸

On the disjunctive relationship between normative and positivist theory in architecture, Lang, among others,

has argued for substantive teaching pedagogies with more emphasis not on how to make architecture but on *why* architecture should be made a certain way. Where procedural theory was once centered nearly entirely on normative assertions, substantive paradigms are now urgently needed based on extending the *knowledge base* for design.⁹ For example, normative theory in architecture cannot hope, critically, to keep up with the array of research-based innovations that are emerging at a rapid rate in such diverse regions of the research landscape as in recyclable building materials, emergent fiber optic lighting technologies, polycarbonate plastics with structural capacities, recent research on the effects of community planning on public health (obesity and heart disease), bionic building assemblies with flex properties, advancements in historic preservation, digital design software, environmentally sustainable site planning principles, and the like.

Positivist-based domains of knowledge generation and its application, i.e. research-based design pedagogies in the design studio, generally, remain dismissed by the cognoscenti. As Robinson points out, this severely limits the ability of students and practitioners to understand the discipline of architecture, in thesis or otherwise, as a coherent disciplinary body of knowledge. As a result, they do not engage with research findings in the thesis studio and rarely apply them in their thesis projects.¹⁰ With this said, the following discussion is an attempt to examine some of the divergences which persist between autonomous versus interdisciplinist pedagogy in the thesis experience as it relates to research-based pedagogy. Second, to examine both in relation to inculcating a higher level of competency in the architecture student upon graduation.

Blending Autonomous with Interdisciplinary Inquiry in the Thesis Studio Setting

Creative designers approach their clients with a critical mindset. They look for nuance, disjuncture, complexity, and social and cultural resonance. They are sensitive to cultural difference and to the negative, global hegemonistic tendencies of American mass consumer culture. The creative designer seeks to explore the inner profundities of places and buildings that may be ignored and thoroughly misunderstood by others, seeing in such settings the fruits of regeneration of not only the well being of place, but also the well being of the public realm.

New knowledge generated from within the profession, or from outside, regardless of intra or inter-disciplinary, dies if it remains in a vacuum, held in abeyance, or if it remains disconnected from its application. Equally important, the thesis student should be exposed to competing, compelling perspectives across a spectrum of disciplines within the university.¹¹ As such, interdisciplinarity, more and more, offers an alternative to the restrictions imposed by autonomy in the thesis studio experience, as it rejects

insularity, inwardness, and intellectual aloofness.

A Proposal for an Interdisciplinist Thesis Studio

As mentioned at the outset, the “finishing” year at most schools of architecture in North America (including the Tulane University School of Architecture, where this author has taught design for eighteen years) is seen for the most part as a rite of passage rather than a true measure of professional competency. In many institutions, the faculty, by having promoted the student at each annual interval, generally consent to the belief that a student is able to graduate as long as he/she can successfully manage (or *muddle*) one’s way through the final year. Graduation is virtually assured as long as he or she “follows the rules.”

The autonomous nature of “thesis” has been known to have troubling consequences for many a final year student. Not every student is equipped to work alone for extended lengths of time. The social contract of the studio breaks down when the thesis studio becomes in effect a series of 14 of 15 independent mini-studios, with the student missing an unparalleled opportunity to interact with one’s peers, or with practicing professionals, whether in one’s *home* discipline or beyond. The opportunity to think and “perform” in a more public arena in terms of learning to work with others, unfortunately, is lost. This is precisely what the *National Council of Architectural Accrediting Boards* (NCARB) had in mind when it inaugurated its annual *NCARB Awards* program in 2002, with the winning school receiving a \$25,000 prize.¹²

In Figure 1, an attempt is made to articulate some principal dimensions of interdisciplinarity in the final year studio and thesis experience.¹³ What the student brings to the experience will have a profound impact on the outcome. Predictors of success in this setting include having the proper preparatory work and experience—*preparation*, possessing a strong sense of *commitment* to the task at hand and to how this quality can inform larger perspectives in one’s work and beyond, having the dedication—*perseverance*—to press forward in the face of obstacles both large and small, and possessing the capacity to *visualize* and express a positive interventional outcome through architecture. In this author’s experience in teaching pre-thesis and thesis design studio (six years), these antecedents have repeatedly been key predictors of a student’s success or failure.

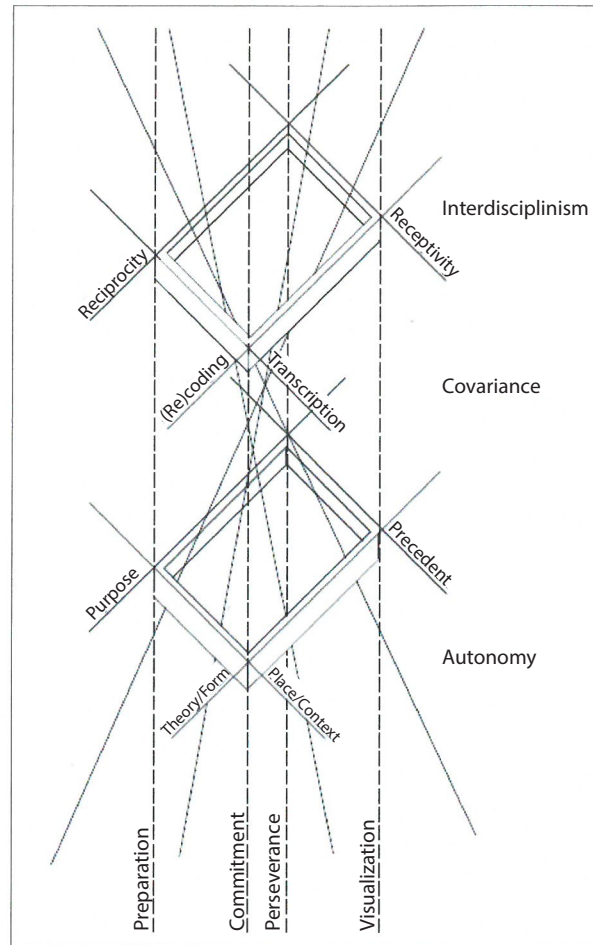


Fig. 1: Dimensions of Interdisciplinarity

In Figure 1 these attributes are shown as correlated with traditional solo-effort studio work (bottom portion of diagram). And, in the case of the typical final year thesis curriculum, directly inform what might be conceptualized as four determinants of any successful thesis project in architecture. This set of prerequisites consist of an ability to cogently articulate the purpose of the exploration, an ability to demonstrate an understanding of theoretical and formal constructs of impact to the exploration, an ability to clearly articulate issues concerning place and context, and an ability to cogently analyze relevant precedent. These concerns, ideally, are fused with collaborative pedagogies whose purpose, ostensibly, are to question, refine, reinterpret, and extend the architect’s knowledge base. *Collaboration* is an often-misapplied term and it differs a great deal from *interdisciplinism*. The former typically denotes a team comprised of all architecture students, whereas the latter denotes a team comprised of one architect working together with perhaps two or three team members from outside architecture. The former does not extend beyond intra-disciplinary interaction whereas the latter involves in-

ter-disciplinary interaction. And it is this latter state which affords the potentially highest dividends in the thesis studio experience.

First, considerable energy must be devoted to instilling an atmosphere of mutual trust and intellectual reciprocity in this type of studio setting. Divergent perspectives, myths, biases, and jargon, out of necessity, will require semantic decoding and re-codification, with the aim of arriving at a shared vocabulary through a process of linguistic transcription. It goes without saying that receptivity and responsiveness to others' ideas is a prerequisite condition on the part of the architectural student. In Figure 1 these pedagogic aims are articulated as four interdependent constructs. These constructs and those which constitute traditional architectural autonomy, interact in a zone of covariance (Figure 1). It is here where the additional vectors of theory and methods merge—dimensions of interdisciplinarity, i.e. time constraints, competing political agendas, public policy formation, social costs and benefits, tectonic innovation, environmental trade offs, sustainable design strategies, and the fostering of new disciplinary languages, even entirely new disciplines, can gestate. This is where design inquiry can be operationalized across far broader landscapes. It is made rationally transparent, fueling further speculative inquiry in an atmosphere of open inquiry. With respect to the awarding of course credit, administrative and logical obstacles can be overcome, when the sheer will to do so exists. Many attractive, parallel curricular templates already exist in other disciplines, especially in the health sciences and the social sciences, merely awaiting adaptation to architectural discourse in the thesis experience.

Some will argue fervently against this proposal because, to them, it dilutes and diminishes the centrality and unique culture of the design studio. It tampers with and destroys the rarified atmosphere of traditional studio culture. It will undermine the already limited time and energy available for the making of architectural form. The trade off, however, need not be between continued isolated contemplation versus contamination by exposure. Uni-disciplinism in the design studio will have even more damaging consequences in the long term. Reappraisal is called for at this time for precisely opposite reasons. The bridging of knowledge and perspectives from such fields as sociology, public health, law, environmental engineering, industrial design, communications, art, and environmental psychology can have a reaffirming, informative, anything but *contaminating* affect. The most innovative design-based firms in the 20th century routinely achieved interdisciplinism in their work. Examples include designers such as Ray and Charles Eames,¹⁴ and the work of the many highly innovative Japanese architects in the post WWII period, such as Arata Isozaki.¹⁵ More recently, Santiago Calatrava,¹⁶ and Donald MacDonald Architects,¹⁷ have successfully incorporated studio research-based marriages between the dis-

ciplines of engineering and architecture.

Disciplinary myopia renders it difficult, as Goldhagen points out, for the recent graduate architect to adopt a positive, proactive stance toward governmental, civic, and commercial organizations of power. In her opinion, the tendency of many final year students to become preoccupied in the 1980s and 90s with post structuralism and related strands within literary theory and philosophy, i.e. the writings of Michel Foucault, Jacques Derrida, Jean Baudrillard, Roland Barthes, resulted in a disdain, even distrust, for everyday professional practice. It was, in her words, a period of "self-marginalization."¹⁸ This trend, to the extent it persists to this day, is in a way a form of learned helplessness. A pronounced mistrust for institutions garnered while in school combined with dysfunctional, autonomous thesis and final year studio curricula are, in fact, interwoven phenomena. This syndrome is at the core of the present dilemma. Therein lies a larger irony: it is extremely difficult to design architecturally inspiring buildings and spaces when guided by skepticism and mistrust.

Competency in Perspective

The dysfunctionality of curricular autonomy correlates with the considerable pressure on architects to maintain credibility with corporate and public sector clients. The architect simply becomes too conservative. Firms sacrifice social responsibility, aesthetic innovation, and sometimes just plain sound judgement to expedience, the familiar, and the bottom line. In this view architects intentionally or otherwise end up creating a blander, impoverished landscape, which in turn diminishes the quality of life of the entire community. The setting of low aesthetic performance standards only further exacerbates the disinclination of clients to seek to attain excellence in architecture. At previously stated, it is imperative that educational reforms are initiated beginning in elementary school to increase literacy levels in architecture and urbanism, at the same time that new methods of learning about design in American schools of architecture are implemented.

Robinson advocates an integrative paradigm where built form is the central focus, and all "*subdisciplines*" and perspectives are seen as essential (although her use of the term subdiscipline, unfortunately, perpetuates an elitist stance to a certain extent).¹⁹ This requires an acceptance of the tacit with the explicit, the scientific with the mythological, the conceptual with the bodily, and the formal with the political. Architecture is framed as a cultural medium where mutual respect and collaboration exists between the profession, academia, and other disciplines. In the context of studio:

"The focus (becomes) a central question...What ought architecture to be?...Rather than on defining boundary conditions (e.g., 'It's only architecture if it deals with form and space.')...(thus framing) the discipline so that it is per-

meable... (Now) the possibility exists for including others that also respond to the central question...Furthermore, the cultural approach clarifies the relation between academia and the practicing profession...(this) approach also challenges the self conception of the architect, as authority now resides in the knowledge itself rather than in the person who holds it. If architecture is a cultural artifact, answering the question of what architecture ought to be is no longer the simple prerogative of the architect, but a societal task...studio instruction will alter...from a problem-solving approach to that of problem exploration...a more scholarly approach to design so that they (graduates) are prepared to engage with the new knowledges." 20

Thesis, that too-often insular, threatening, symbolic waystation separating academia from the profession beyond, deserves to be the cornerstone of any curricular reforms in architectural education. Time is of the essence. Curricular autonomy—isolationism—is unjustifiable in an information saturated, hyper-accelerated global environment. No reason exists for the architect to not orchestrate new learning models. Positivist, research-based practices, open and participatory design processes and, ultimately, proactive, leadership-focused roles in the public realm will result. To this end, thesis and final year studio education need to provide the student with the tools for a new mode of engagement with the world. Society will then be inclined to more eagerly invest in the field of architecture, thereby further empowering architects to effect further constructive change. By redefining architecture as a discipline incorporating interdisciplinist linkages with far reaching physical, spatial, and socio-cultural ramifications, the worlds of the academy and of professional practice become complementary and no longer need be competitive, backbiting, or mistrustful of one another

Notes:

1. Boyer, Ernest L. and Lee D. Mitgang. *Building Community: A New Future for Architecture Education and Practice*. New York: The Carnegie Foundation for the Advancement of Teaching, 1996, p. 149.
2. Sarah Williams Goldhagen, "Our Degraded Public Realm: The Multiple Failures of Architecture Education," *The Chronicle of Higher Education*, 10 January (2003): 1-9.
3. N. Wates (Ed.), "Involving Local Communities in Urban Design: Promoting Good Practice," *Urban Design Quarterly* 67 Supplement (1998).
4. Martin Symes, John Eley and Andrew Seidel, *Architects and Their Practices: A Changing Profession* (Oxford: Butterworth-Heinemann, 1995).
5. Martin Symes and Andrew Seidel, "Architectural Education for Architectural Practice Revisited Studios." In Gary T. Moore, Jacqui Hunt and Louise Trevillion (Eds.) *Environment-Behavior Research on the Pacific Rim* (Sydney: Proceedings of PAPER 98 Conference, 1998).
6. Donald A. Schon, *Educating the Reflective Practitioner* (San Francisco: Jossey-Bass, 1987).
7. Julia Williams Robinson, "The Form and Structure of Architectural Knowledge: From Practice to Discipline." In Andrzej Piotrowski and Julia Williams Robinson (Eds.), *The Discipline of Architecture* (Minneapolis: University of Minnesota Press, 2001).
8. Stephen Verderber and Ben J. Refuerzo, "On the Construction of Research-Based Design: A Community Health Center," *Journal of Architectural and Planning Research* 16:3 (1999): 225-241.
9. Jon T. Lang, *Creating Architectural Theory: The Role of the Behavioral Sciences in Environmental Design* (New York: Van Nostrand Reinhold, 1987).
10. Robinson, p. 68.
11. Stephen Verderber, "Architecture and Interdisciplinism." In Renee Chow (Ed.), *Toward a Critical Pedagogy for the Environment: Proceedings of the 1998 ACSA West Regional Meeting* (Berkeley: Department of Architecture, University of California at Berkeley, 1998).
12. This timely, well-funded award program endeavors to foster and sustain a dialogue between students in the design studio, and professional architects. It encourages faculty and students to look beyond the autonomy of the studio, whether in the final year or otherwise. For the practitioner, equally important benefits may accrue, such as being able to remove oneself from the daily office grind of breathlessly running from project

to project, from deadline to deadline with little time for reflection. At Tulane, the "finishing " year for M.Arch first and second professional degree candidates is a two-semester thesis sequence. In the fall, the student develops a topic while enrolled in a 3-credit thesis prep course. This course is team-taught and is a combination of lectures and discussions. At the end of the fall term the student must present a thesis "document," a statement of intentions. This includes all pertinent theoretical, program related, and site related information. Upon approval of this document, the student is then allowed to enroll in the spring term thesis design studio (6 credits). Unfortunately, every student is required to work independently, and team projects are not allowed. Formal reviews are scheduled twice during the term, with other interactions between faculty advisor and student occurring on an individual appointment basis. This format, suffice to say, has led to extremely uneven outcomes, proving that autonomy for its own sake can be its own worst enemy. As mentioned, while some can perform extremely competently while working independently, others have a far more difficult time of it.

13. Stephen Verderber, "'Architecture, Health and Society: A Framework for Interdisciplinary Seminar Teaching," *On Honoring Teaching Excellence* (Washington, DC: The American Institute of Architects, 1996, pp. 5-9). This proposal is derived from eighteen years of teaching interdepartmentally cross-listed upper level seminars with architecture students and graduate students in public health and allied health disciplines, at Tulane. In 1995 this author received the *ALA Education Honor Award* for this course sequence.
14. Keith Yamashita, *Fifteen Things Charles and Ray Eames Teach Us* (Venice, California: Eames Office, 1999).
15. Dana Buntrock, *Japanese Architecture as a Collaborative Process* (London: Routledge/Spon Press, 2002).
16. Franz Schulze, *Building a Masterpiece: Milwaukee Art Museum* (New York: Hudson Hills Press, and the Milwaukee Art Museum, 2001).
17. Donald MacDonald Architects, <<http://www.donaldmacdonaldarchitects.com>>
18. Goldhagen, p. 7.
19. Robinson, p. 70.
20. Ibid. p. 79.