Unprincipled: Toward New Values for Foundations Education in Architecture

"In ten years we probably will not call ourselves an architecture practice, it will be something entirely different."

—Architect, Small metropolitan boutique practice[1]

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INTRODUCTION

The architecture profession has faced radical changes over the last decade—the impact of the global recession on the building industry, the expanding importance of emerging markets in developing counties, the increasing demand and desire for alternative forms of practice, and the generational shift in the nature of the workforce, to name a few—and will most likely continue to transform dramatically in the years to come. Considering that beginnings often shape the ends, is beginning design education, or foundations, situated appropriately to respond to, much less anticipate, these changes? Despite the few recent reports of moves toward radical, experimental pedagogies and the widely held beliefs that technology and "proto-practice" are the answer,[2] there is little evidence that foundations education as practiced is anything but traditional, depending on design principles and technique to prepare students for the profession. Given the unlikelihood that architecture education will be comprehensively reformed and that first-year programs are typically last in line for resources, innovative methodologies in foundations must be profound and effective, but simple. While balance, proportion, rhythm, repetition, among many other fundamental guiding design principles will remain primary in a foundations education, learning outcomes must adapt to meet and even expect shifting demands in the field, focusing less on the principles of design and more on the capacities graduates need to adjust to an ever-evolving professional landscape and maintain the vitality of architecture education, if not the profession itself. To focus on the student as product rather than what they produce. To instill valuable aptitudes rather than a set of technical, vocational skills. To educate and transform rather than train.

In the wake of the recent economic downturn and, to be fair, over the past several decades, critics have argued the insignificance of both the profession and modern architecture education, calling for a "bottom-up reboot" and return to the broad, humble humanism that made architecture "the mother of all arts" and so socially relevant prior to the beaux-arts revolution.[3] The current profession is characterized as being aesthetically driven, peer-oriented, and socially imperialist, training students to prize originality and prestige over the more prosaic role culture currently demands they play.[4] Foundations doesn't just have a part

in redeeming the profession, but is a key chief factor in shaping how architects ultimately think and operate. And, considering competitive programs where attrition sends 15 to 50 percent of beginning design students to other fields after first year with a core of design thinking, our impact in foundations education expands well beyond preparing students for their second year in architecture. Our pedagogical vision must also extend beyond myopic disciplinary objectives, infatuations with new technologies, and aesthetic agendas. Instead, it should be framed by a real, common set of values that transcends the architecture profession, has agency throughout society, and produces curious, confident, socially engaged students who are able to think and operate successfully across disciplines in an era defined by massive change, no matter what kind of practice they finally pursue. The following capacities, Curiosity, Courage, Community and Craft are proposed as components of a pedagogy of critical learning, and not as a final list of educational outcomes in foundations, but essential as a beginning.

CURIOSITY

"Can machines think?"[5] This simple but profound question is at the heart of the opening sentence of Alan Turing's seminal 1950 paper, "Computing Machinery and Intelligence" published in Mind, that sparked a scientific and cultural revolution leading to the development of some of the twentieth century's most meaningful technological advances, works of art, film, and literature. An investigation of artificial intelligence, it changed completely the way we live and imagine living in the future. Questions like this, argues Noam Chomsky, form the basis of all of modern science.[6] Silvan Tomkins, quoted in Todd Kashdan's book *Curious?*, believed in the utter significance of curiosity:

> "The importance of curiosity to thought and memory are so extensive that the absence…would jeopardize intellectual development no less than the destruction of brain tissue…there is no human competence which can be achieved in the absence of a sustaining interest."[7]

While at least one study[8] has shown no link between curiosity and academic achievement in the design studio, the essential role that curiosity plays in design is unquestionable. A survey conducted at the School of Technology at Brigham Young University asked a group of second year design students to name the most important lessons learned in first year. Among the answers, they cited "Asking the right questions and the need to dig to find the right answers" as a primary take-away.[9] However, students entering foundations programs from high school can be devoid of interest, as Noam Chomsky contends in a separate interview:

> "There are ways of teaching that simply drive away any sensible person's curiosity and interest, no matter what you're teaching. In 2012, programs of 'teaching to tests' are deadening to the mind: they just undermine any likelihood of the children wanting to learn or gain the capacities to proceed on their own."[10]

It is not until graduate school that we push students to be curious, to follow and to develop their own interests. Unfortunately, the emphasis during an undergraduate education is often on problem solving rather than problem posing.

Although the subject of curiosity, including its origins and impact, is largely misunderstood and under-researched, the study of curiosity has increased over the past decade and strategies for harnessing and fostering curiosity in students are beginning to emerge. They are strangely simple: ask questions and ask them again, and again. Introduce diverse content and encourage students to bring their own outside world in. De-emphasize grades. Minimize or eliminate deadlines. Tinker. And play.[11] In my own courses, I teach primarily through the Socratic Method, modeling behavior, and requiring students to begin and end each project or process with a rich question. Through dialogue and critique, we develop a deep interest

leading to better and better questions along the way. In a design studio, questioning can be as important as making, and the two are established as complimentary to the design process.

The implications of adopting strategies to promote curiosity as a pedagogical focus in foundations education are potentially vast. Evidence shows that people who think and behave with curiosity adjust better to new occupations and changes in the workplace. They learn better, perform better, and show greater job satisfaction.[12] And although these impacts are vague concerning the architecture profession specifically, we know that a healthy curiosity promotes risk-taking and collaboration, two capacities proposed below whose impacts on design are clear. What is obvious, as well, is that if the profession is to remain relevant, architects must start asking better questions about how to meet the demand of the 98 percent of the population who have design needs but cannot afford it, and not just the 2 percent who can.

COURAGE

Risk and its relationship to reward and survival has been an integral part of almost every human activity from the beginning, responsible for initiating the most important of human inventions and endeavors from the spice trade to the space race. The Chinese symbol for risk, in fact, is a combination of symbols for danger and opportunity.[13] Risk's role in innovation throughout history cannot be understated. It is a primary catalyst for shaping our present society, the dividing line between modernity and what came before.[14] Unlike curiosity, risk can be measured, its origins defined, and its impacts predicted. Untold resources have been expended toward understanding risk and developing risk-taking capacities in military, sports, and corporate cultures. Evidence shows that risk-taking behaviors may be pronounced in some cultures more than others, finding companies with entrepreneurial attitudes to be at a distinct advantage over conservative management structures, increasing the chances for survival in a turbulent economy for firms more willing to make risky decisions, this research coming out of China.[15]

And yet we teach our students to avoid risk at all costs. The emphasis in modern education on academic achievement, measured in points, scores, and awards develops in our students the practical belief that intellect is more important than character, that potential is tied to GPA, and that it is wiser to maintain an excellent academic record than to take risks. Through strict deadlines, standardized testing, and focusing on convergent problem solving, we are teaching students to fear failure and to be uncomfortable with the unknown. As Jessica Lahey puts it in her recent article in *The Atlantic* on the state of high school education, "The pressure to achieve academically is a crime against learning".[16] But, secondary education is not the only culprit; higher education is also at fault.

Like curiosity, instilling courage in foundations students can be an uphill battle. In order to combat the fear of failure that is so prevalent and deep-seated among entering freshman, a studio learning environment must be established that demands ambition, allows time for reinvestigation, and accepts failures, exemplifying the spirit of Andy Grove's catch phrase, "Make mistakes faster."[17] The more we put students in the position of making their own decisions, the more risks they will take, as decision-making marks the end of deliberation and the beginning of action, which always includes risk.[18] But, developing aesthetic and formal risk-taking in students is not the answer or even necessary as a response, given that this is already the modus operandi in most academic design programs where the priority is on designing beautiful objects rather than meaningful processes. This focus on form and individual artistic skill has led to a disregard for process and critical questioning, an emphasis on self-satisfaction, and a lack of social consideration in the way that we teach architecture.[19]

In contrast to the status quo, we need to develop in students the kind of risk-taking that impacts society beyond a mere visual presence, resulting in expanded roles for architects,

more relevant forms of practice, effective ways to engage emerging markets and diverse populations, invention, and innovation in building materials and systems. More importantly, perhaps, we must return to risking the responsibility for the control that architects used to have but that the profession has relinquished over the decades to other disciplines, professions, and trades. We must again risk situating ourselves at the heart of culture, rather than at its margins, where we can operate with agency.

COMMUNITY

In a recently published 75 year Harvard study on what makes us happy, long-time director of research George Valliant concludes that, "the only thing that really matters in life are your relationships to other people."[20] This fact doesn't just apply to our personal lives, but extends to every aspect of life, including business and learning. There is a mountain of evidence supporting the payoffs of collaboration in education and increasing studies into the nature and benefits of cooperative professional environments. Recent studies suggest a movement toward a more open and fluid workplace, where structured communication between diverse groups is valued over the more compartmentalized organizational models of the past.[21] It seems only logical that we would implement educational models that develop collaborative behaviors, preparing students who will inevitably engage an increasingly more complex and collaborative profession, economy, and society.[22]

Design-based and project-based learning programs in secondary education are typically cross-disciplinary and highly collaborative and there is a trend in education to move toward more collaborative learning environments, in general. In fact, as collaboration is a hallmark of good design, most college design programs foster collaboration across the curriculum, but especially and often only in upper-level, topical, design-build and live studios. An example of this is the curriculum at Iowa State University where, depending on the disciplinary program, all or many semesters have required group work. It was standard for many years in the foundations program there that the first project in first year was collaborative, foreshadowing future expectations and priorities. Despite arguments that group work in design studio can make it difficult to fairly and accurately evaluate performance in design studio, Iowa State managed this successfully through frequent and structured student peer-review. Yet it is still common to find design programs in higher education that focus on identifying and developing the individual genius. The emphasis on the individual is most prevalent in foundations and especially in competitive programs with a threshold after first year.

Unfortunately, despite the recent emergence of radical and alternative forms of architecture practice, such as Public Interest Design, and the increasingly collaborative nature of business, the architecture profession is still peer-oriented, isolated, and estranged from the rest of society. In my experience, the typical attitude casually expressed in the field among architects is that they have the ability to perform all duties regardless of discipline and that collaboration, more than being unnecessary, is unwanted. Frank Lloyd Wright, a strong believer in individualism, helped to cement this attitude within the profession for years beyond the end of his own practice. This condition has been incredibly evident to me while serving on interdisciplinary committees in design programs where the overwhelming sentiment among faculty has been that architects are the least collaborative, the hardest to deal with, and uncompromising.

If the profession is to thrive, much less survive, this attitude has to change. Collaboration must become a core of the architecture education curriculum, prioritizing collaborative learning, teamwork, and community while demanding that faculty model collaborative behavior. This cannot just occur under certain circumstances and in obvious places, but throughout the curriculum and from the beginning.

ENDNOTES

1. Jamieson, Claire. "The Future for Architects." *Building Futures,* RIBA, London (2011): 29.

2. Hunter, Will. "Alternative Routes for Architecture: The Urgent Case for a New School of Architecture". *The Architectural Review* (September 2012). Web.

3. Dickenson, Duo. "Why Modern Architectural Education is Archaic". *ArchitectureBoston Magazine* (2010). Web.

4. Gans, Herbert J. "Toward a Human Architecture: A Sociologist's View of the Profession." *Journal of Architectural Education* 31.2 (1977): 26-31.

5. Turing, Alan M. "Computing Machinery and Intelligence." *Mind* (1950): 433-460.

6. "Is the Man Who is Tall Happy?: An Animated Conversation with Noam Chomsky". Dir. Michel Gondry. Michel Gondry and Noam Chomsky. Partizan. IFC Films (USA) (2013). Theatrical.

7. Kashdan, Todd. *Curious?*. HarperCollins e-books (2014): 6.

8. Smith, Korydon. "Curiositas and Studiositas: Investigating Student Curiosity and the Design Studio." *International Journal of Art & Design Education* 30.2 (2011): 161-175.

9. Fry, Richard, and Paul Skaggs. "The Designer Toolkit Is Not About Skills." IDSA 2013 Education Symposium. Chicago (2013): 1.

10. Robichaud, Arianne. "Interview with Noam Chomsky on Education". *Radical Pedagogy* (March 2013). Web.

11. Gore, Nils. "Craft and Innovation: Serious Play and the Direct Experience of the Real." *Journal of Architectural Education* 58.1 (2004): 39-44.

12. Kashdan, Todd B., and Frank D. Fincham. "Facilitating Curiosity: A Social and Self-Regulatory Perspective for Scientifically Based Interventions." *Positive Psychology in Practice* (2004): 482-503.

13. Damodaran, Aswath. *Strategic Risk Taking: A Framework for Risk Management*. Pearson Prentice Hall (2007): 4-6.

14. Bernstein, Peter L., and L. Bernstein Peter. *Against the Gods: The Remarkable Story of Risk*. New York: Wiley (1996): 1.

15. Tan, Justin. "Innovation and Risk-Taking in a Transitional Economy: A Comparative Study of Chinese Managers and Entrepreneurs." *Journal of Business Venturing* 16.4 (2001): 359-376.

16. Lahey, Jessica. "When Success Leads to Failure". *The Atlantic*. (August 2015). Web.

17. Andrew Grove. Co-founder, Intel.

18. Buchanan, Leigh, and O'Connell, Andrew. "A Brief History of Decision Making". *Harvard Business Review* (January 2006). Web.

19. Bashier, Fathi. "Reflections on architectural design education: The return of rationalism in the studio." *Frontiers of Architectural Research* 3.4 (2014): 424-430.

CRAFT

Primarily, as designers, we are makers. More fundamentally, making is a defining characteristic of the human condition. But, as important as making is in the evolution of mankind, the activity of making is distinct from the intellectual action of craft. As Richard Sennett points out, "people who make things usually don't understand what they are doing".[23] Hannah Arendt's idea of *homo faber*, or "man as maker", was divergent from the mainstream view of material culture in that craft involves making through *vita activa*, action and speech, embedding fabrication within the process of communication and arguing that every action "performed in public can attain an action never matched in privacy;...the presence of others is always required...constituted by one's peers, it cannot be the casual, familiar presence of one's equals or inferiors", defining craft more as a set of valuable relationships than an outcome of work.[24] Craft not merely as neatness or precision, but as critical learning. Craft as a conscious, soulful action. Craft as love.

Students develop essential characteristics of design cognition and are able to adopt a critical position toward craft only when they are engaged in an exploration of raw materials, basic fabrication techniques and technologies, and direct experience. Distinct from making, craft is understood as the meaningful transformation of a raw material with tools into a more refined, designed artifact or composition. Stationery items such as basswood, paper, and chipboard are already refined, rather than raw, materials. Ultimately, craft defines a relationship between a person, a tool, and a material. It entails a process of sensitive engagement where all three entities contribute to an outcome and no single entity is dominant, especially the influence of an intellectually biased intention. Thinking and doing must occur simultaneously.[25] This process of material transformation coincides with and is integral to the student's transformative personal experience and development of critical thought and ethical stance toward making, valuing making well and making for the sake of making, not toward some pre-imagined, desired product or as a means to an end.[26] As first year students initiate their design education, attitudes about craft and a relationship with material culture should begin immediately, in the foundations year.

A design education, perhaps more than any other, is progressive and requires revisiting and reinforcing all aspects of the curriculum, by degree over time, to insure that student learning compounds and evolves. A foundations education requires that students be engaged in basic craft, through direct experience with raw materials, progressively engaged and attuned throughout their education, developing consistently and with increased sophistication as makers.

It may seem obvious and easy to make a case for craft in foundations education; however, the argument is not for craft itself, but the kind of craft we should promote or, rather, how we should understand craft and pass on that understanding. Craft not as a set of skills, but as a core of values. Craft not as an expectation, outcome, or objective, but as an attitude.

CONCLUSION

Curiosity, courage, community, and craft are not proposed here as components of an absolute pedagogical agenda or as substitutes for other skillsets, abilities, and understandings, but as an essential, core set of values around which to structure a broader architecture education. As course outcomes, however, these capacities do not read particularly well on syllabi, are difficult to measure, and harder still to accredit. They may not necessarily show well in a design portfolio, and it can be difficult to convince more pragmatic colleagues to adopt such esoteric goals. Yet there is credible evidence supporting these qualities as the basis of our very humanity, let alone as hallmarks of great designers, and reliable strategies to develop them in our students. The potential alternative, worse than the status quo, is the continued regression of our education system, and worse still, humanity itself.

In 2015, a fourteen-year-old boy was arrested for bringing a clock he made to science class because it was mistaken for a bomb. When Ahmed Mohamed took the initiative to invent and to transcend the objectives of the class, probably the most he thought he was risking was his grade. Apparently, he was risking much more than that.[27] Increasingly, it is becoming our responsibility as teachers not just to educate but to socialize, especially in secondary education and during the first year of college. Perhaps it has always been so. It is apparent from stories like these that we are losing our capacity to do that, precisely because we do not prioritize values like curiosity, courage, community, and craft as the primary outcomes of an education. Because primarily we operate through fear. The fear of failure. The fear of each other.[28]

The things we value, or do not, as educators will shape the way in which our students engage the world. They will operate as human beings first, and architects second. It is incumbent upon us to do more than train our students with the principles of design; we have an imperative to educate, if not socialize, them toward the capacities necessary to become productive members of society. The implications of this reach far beyond the next generation of beautiful buildings and Pritzker Prize winners, awards and publications. The impact of re-humanizing architecture education will be evident in how the rest of society relates to architecture as a profession. The next great design movement will not be defined by our aesthetic agendas, but by our values. It will be defined by our relevance.

20. Shenk, Joshua Wolf. "What Makes Us Happy?." *The Atlantic* (2009): 36-53.

21. Ross, Joshua-Michele. "Collaboration Rules: Five Reasons Why Collaboration Matters Now More Than Ever". *Forbes* (2011). Web.

22. Morel, Nina J. "Setting the Stage for Collaboration: An Essential Skill for Professional Growth." *International Journal for Professional Educators* (2014): 36.

23. Sennett, Richard. *The Craftsman*. Yale University Press (2008): 1.

24. Arendt, Hannah. *The Human Condition*. University of Chicago Press (2013).

25. Dougan, Brian. "A Designer Education: Making Pedagogy." 26th National Conference on the Beginning Design Student Proceedings (2010). 248-253.

26. Crawford, Matthew B. *Shop Class as Soulcraft: An Inquiry into the Value of Work*. Penguin (2009): 3.

27. Fernandez, Manny. "Handcuffed for Making Clock, Ahmed Mohamed, 14, Wins Time with Obama". *New York Times* (September 17, 2015). A1.

28. Lukianoff, Greg, and Haidt, Jonathan. "The Coddling of the American Mind". *The Atlantic* (September 2015). Web.