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Fall
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Issue \$15
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Crit, a celebration of student work in the field of architecture (ISSN 0277 6863), is published by the American Institute of Architecture Students, Inc., 1735 New York Avenue, NW, Washington, D.C. 20006-5209 / www.aias.org / 202.626.7472

AIAS is an independent, nonprofit, student-run organization. *Crit* is free to all AIAS members. Previous issues may be purchased at \$15.00 per issue plus shipping costs. Please contact the AIAS at 202.626.7472 or via email at mailbox@aias.org for availability and to inquire about subscriptions. Advertising rate information is also available.

Crit welcomes editorial and design submissions as well as readers' comments. The Editor-in-Chief and the Board of Directors are committed to the publication of students work. All submissions become the property of AIAS.

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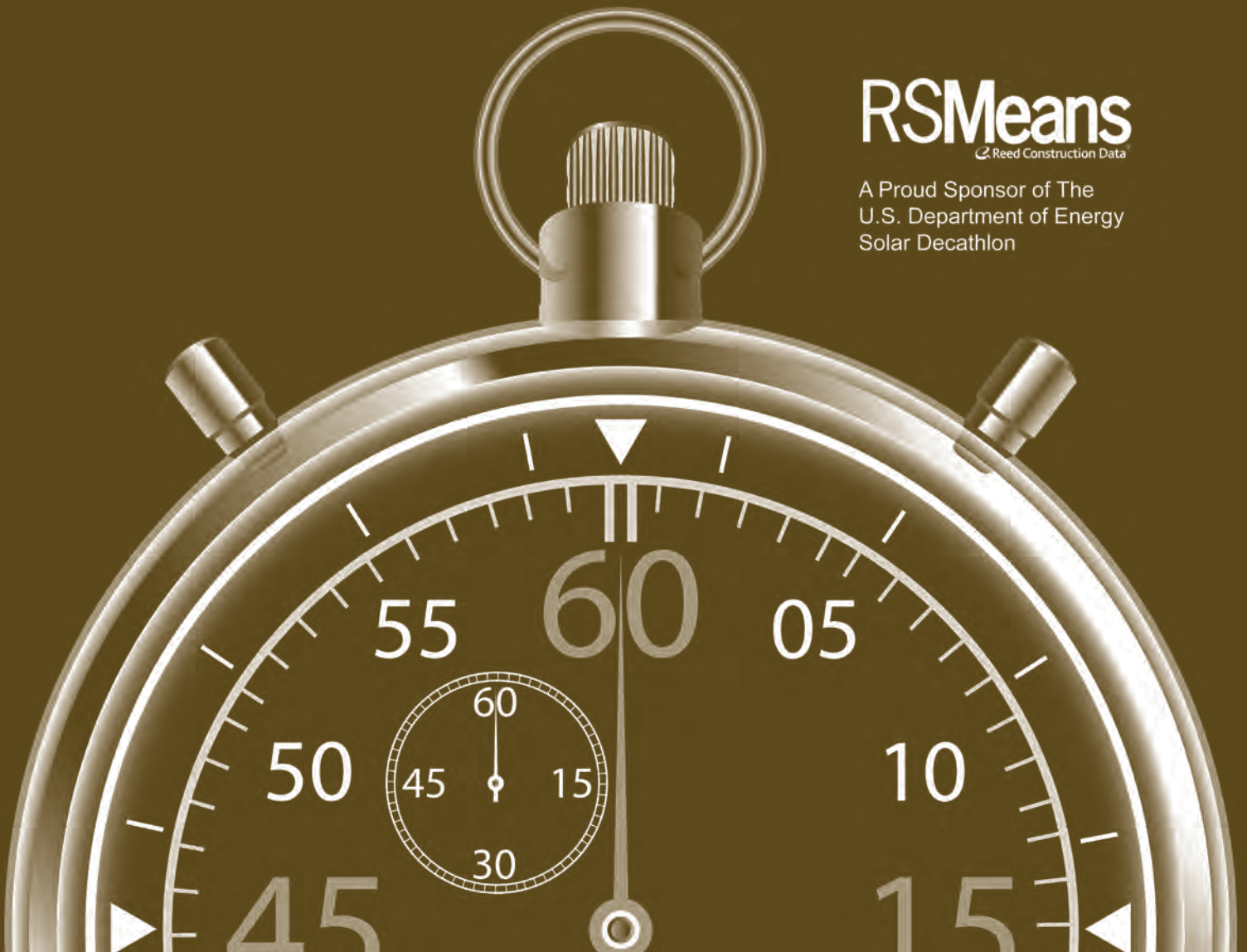
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Crit accepts submissions on a rolling basis – any time, from any person, on any topic (architecturally speaking). We do not predetermine issue topics, but create each theme after review and assessment of submitted content. *Crit* welcomes ideas in all stages of development: send us the seeds, and we'll help you grow them into peer-reviewed articles worthy of publication. Full submission guidelines are available at www.aias.org/crit.

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B O R D E R L E S S

There are 104,301 registered architects in the United States.¹ This means that a scant .0334 percent of our population is licensed to practice architecture. But every single one of the 312,382,871 persons in the United States requires places to live, work, meet their needs, and thrive.² One might read these figures and think, "These should be boom times for architects! Look at the supply and demand!"

These are anything but boom times.

Why? There are as many answers to this question as there are architects. Perhaps architects have been complicit in the creation of the economically and ecologically unsustainable systems that are crumbling around us. Perhaps architects have ceded too much of their authority to others who have proven incapable of wielding it. Perhaps architects have pushed themselves to the margins by serving only the small minority that can afford premium design services. Whatever the answer, one certainty underlies each response: the architecture profession cannot survive in its current form.

America's current climate is defined by staggering unemployment and weakened economic output. Historically, economic decline is often followed by nationalistic, xenophobic movements such as those currently exhibited in places like Arizona, Utah, Georgia, and Alabama. In this tumultuous moment we may be tempted to protect ourselves by fortifying borders – both figurative and literal. We might develop a desire to return to the heyday of the 1990s and early 2000s, motivated by visions of renewed economic dominance. But let us not fall into the trap of American supremacist rhetoric; it is not 1945. If the events of the past three years – most notably perhaps in the Arab world – have demonstrated any singular fact, it is that the global economic systems and power structures we began building after WWII are unequivocally unsustainable.

There are plenty of nations eager to fill the vacuum created by our economic collapse. Economists and policymakers study the rise of the BRIC nations: Brazil, Russia, India, and China. But what does this mean for American architects and students? *Design Intelligence* has proffered some resources to guide American firms into "The Next Wave" in China by "penetrating

markets" and "implement[ing] sustainable design strategies more frequently and effectively," noting that "second- and even third- and fourth-tier cities offer project sites ready for development."³ To escape our stagnant economy, they say, "Get on a plane and head to Vietnam, Brazil, or Korea...Just a few hours' flight from the United States, business is bustling and positive visions are blooming...When one gets outside U.S. borders, perspectives change and broaden. Gloom lifts into possibility."⁴

But are emerging nations merely limitless sources of economic opportunity to be capitalized upon? Do burgeoning global metropolises simply give us the ability to maintain our status quo and repeat mistakes while serving their 'one percent'? Numerous stories of 'ghost cities,' abandoned shopping centers, fraudulent developers, and catastrophic failures of hastily-constructed infrastructure should give us pause. Rather than asking, "How can we practice in other countries?" our question should be "How *should* we practice in other countries?" Times of upheaval can certainly yield prosperity and equality – but only through responsible decisions informed by consideration of long-term consequences.

These pages will take you far beyond our borders. But the questions these authors explore directly impact you, whether you are reading this from San Diego, Augusta, or any one of the thousands of towns in between. How can we design cities that are inclusive of all persons regardless of socioeconomic status, race, color, and creed? Who is "the public," and how can we best understand and serve their needs? How can we maintain local cultures and histories in the face of globalizing and homogenizing construction practices?

As the business of architecture continues to cross mapped lines, students would be wise to look outside our comfort zones to learn to accommodate foreign cultures and social norms. Rather than heedlessly promulgating our methods across the globe as we did in the postwar period, we must be prepared to engage the rest of the world in thoughtful dialogue and, perhaps more importantly, infuse lessons from abroad into our practices. Only then can architecture truly be borderless.



BRETT W.R. PEANASKY

Brett W.R. Peanasky received his B.A. in Architecture from Miami University in Ohio in 2009. He served as the 2009-2010 AIA Vice President. An aspiring urban and environmental planner and policymaker, Brett plans to pursue graduate education in city planning and law. He is currently stuck in Atlanta traffic.

NOTES

1. "NCARB's 2011 Survey of Registered Architects," National Council of Architectural Registration Boards, accessed October 8, 2011, <http://ncarb.org/en/News-and-Events/News/2011/2011-Architect-Survey.aspx>.
2. "U.S. POPClock Projection," U.S. Census Bureau, accessed October 8, 2011, <http://www.census.gov/population/www/popclockus.html>.
3. Gary Larson, "Design in China: The Next Wave," *DesignIntelligence*, September 6, 2011, accessed September 27, 2011, http://www.di.net/articles/archive/design_in_china_next_wave/.
4. James P. Cramer, "Growth Beyond Borders," *DesignIntelligence*, September 7, 2011, accessed September 27, 2011, http://www.di.net/articles/archive/growth_beyond_borders/.

COMMENTS

comments

NICK MANCUSI

Nick Mancusi began his architectural studies in Boston at the Wentworth Institute of Technology before transferring to Taliesin, The Frank Lloyd Wright School of Architecture, where he completed his B.A.S. in Architecture in 2009. Nick was one of the founding members of Taliesin's AIAS chapter, eventually becoming its third chapter president, and served as the 2010-2011 West Quadrant Director. While at Taliesin, Nick was the assistant project manager of Taliesin's award-winning design-build Mod.Fab™ while concurrently working with his father as partner of Mancusi Builders, LLC. Nick graduated from Taliesin with his Master of Architecture in May 2011 before taking office in Washington, DC where he now serves as the 2011-2012 AIAS President. Nick is passionate about civic engagement and how architectural education and practice can inform decisions that affect the issues that face our growing planet.



FROM THE OFFICERS

What does “relevance” mean for architecture students? We live in a world of economic angst, social inequality, and joblessness, all overshadowed by the threat of ecological demise. Our politicians find difficulty in reaching consensus while our dependency on oil remains headstrong and all the while graduates struggle to begin careers. We are all but immune to recurring words like “recession” and “disaster”. In this context our creative and analytical education and passion for the world we build for future generations make architecture students particularly relevant.

Relevance comes naturally to members of the American Institute of Architecture Students: we are leaders within our schools, examples in our communities, and voices on a global level that can – and have – made a difference. AIAS members initiated the studio culture movement, and these policies continue to transform relationships between students and educators in our schools. We led the charge to mandate paid internships, ending decades of taking advantage of students' willingness to accept experience as compensation. We continue to advocate through the leadership and examples of our members and we are committed to providing resources to students that deliver opportunities to become more relevant.

For instance, current students face unprecedented tuition rates for our education. Yet economic conditions do not afford the salaried jobs proportional to the debt architecture students accrue while in school. Thus we have taken on an ambitious pursuit of what already exists

for graduates of law, medicine, and education: federal loan exemptions/deferment. Architects are the individuals that for centuries have sculpted the built environment we experience today. Looking at architects who have given their lives to serving the public by improving communities, dedicating that 1%, serving our Senate, and even writing our nation's Declaration of Independence, it is an injustice that our profession is not given the acknowledgement of other professions. We are passionate about improving the way we live, work, and thrive and it is time we use our official voice to bring this message to the public. Our activism on this issue will provide a national platform for the astounding work that architects and architecture students do. [Advocacy Starts Here.](#)

The value our organization places on education is evidenced by new benefits we have created to address our membership on multiple levels. Through enhanced programming at conferences, a greater focus on design issues, and competitions grounded in reality, we offer members the broader education they desire. We also acknowledge that our education is unique in its emphasis on mentorship. To strengthen this we have begun efforts to increase our high school student, graduate student, and alumni membership. Broadening the arc of our membership will bring more experiences and ideas to the table, increasing the resources and successes that we can share as an organization. Finally, as an independent collateral organization we will participate in the Accreditation Review Conference in 2013, hosted by the National Architectural Accrediting Board. The goal of this conference is to continue to assess educational standards to ensure they meet the demands of an evolving profession. It is our responsibility to drive initiatives that reflect values of our membership to ensure our education is innovative, diverse, and comprehensive. [Education Starts Here.](#)

Our profession is continuously stimulated by students who play an active role in their local AIA components. We have reached out to individual components to nurture these partnerships. From a national perspective we explain to components the vital importance of student voices on the local level to create engaging programming that is beneficial to all members. These collaborative efforts lead to networking and mentorship opportunities that benefit both students and professionals. At a larger scale this assigns a sense of value to the student voice and increases our respected role as an inspiration for

LAURA MEADOR

Laura Meador is a 2011 graduate of Louisiana State University. A native Louisianian and adopted Texan, she moved to Washington, DC to fulfill her role as AIAS Vice President in May. As Vice President, she is dedicated to raising the standards and public awareness of architecture education and also empowering members to be leaders in their profession and communities. In her free time, she enjoys performing improvisational comedy with Comedy Sportz in Arlington, VA, catching up on her TiVo recordings, and playing fetch with her beloved cat, Caspian.



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the future of the profession. In addition we provide members numerous opportunities – such as conference sessions, competitions, and coordinated events – to receive IDP credit and achieve licensure faster than ever before. AIAS also gives students a competitive edge in the job market through supplemental educational resources and exposure to professionals they admire through our webinars. [Career Starts Here.](#)

We look forward to these values converging at our annual conference. FORUM 2011 will be one of the largest and most empowering events our organization has ever seen. This year will not simply be a conference with amazing keynote lectures, inspiring sessions, eye opening tours, or the fabulous Beaux Arts Ball. The theme for the conference, “Solutions,” seeks to find resolutions to the problems that plague our society. We have proven time and again that FORUM is not just a party, but also an opportunity to promote change. This year we focus on a multitude of complex issues that face our planet and we need you, the members of the AIAS, to work to find solutions. For instance, several states have followed Arizona’s lead in setting controversial immigration laws. These laws respond to complex issues and were created by policymakers, not designers. These laws lack direction, ingenuity, and

understanding. Architecture students are meticulously trained to look at complex issues and create a series of powerful results, regardless of the problem, and can offer alternate perspectives. Immigration is just one issue among urban sprawl, transportation, water, economic diversity, and others that we must seek to engage for the betterment of the future. At FORUM 2011, we will bring our training, minds, and voices together for conversations about these issues to become an integral part of the solutions. [Relevance Starts Here.](#)

When we began in 1956, our voice emerged with a mission to combine student efforts to effect change in our profession. We increased our relevance in 1981 when we became an independent non-profit organization, expanding to champion our own initiatives. In a world that faces myriad complex challenges we must work much more diligently. We must take equal share in these challenges, for we are the present, the pulse, and the current that will thrust our profession forward. To seek relevance is to look within and hold ourselves accountable for the future. The time is now for architecture to furiously capture the public once again through dynamic design and grounded integrity. Let it start with our generation. Let it start with the American Institute of Architecture Students. Let it start with you. **C**

BIGGER

THE RIGHT TO DREAM

"Why would you leave a successful career in real estate management and development for seven more years of school?"



MATTHEW A. BARSTOW

Matthew A. Barstow, Assoc. AIA, is pursuing his Bachelor of Arts in Architecture at the University of New Mexico. Additionally, he currently serves as the AIA's West Quadrant Director. Interested in architectural policy and advocacy, Matthew plans to pursue graduate education in architecture and law.

I have endured this question all too often since making my decision to study architecture. In many ways I find the question interesting: the inquisitors act as if I forfeited some supernatural place in the hierarchy of our universe. To me the question is one of values. I value happiness and I do not believe it should be sacrificed for success. I was not fulfilled by my relative success and in some ways I had replaced my pursuit of happiness with the pursuit of money and power. Let there be no misunderstanding: I am happy to collect a check and I am not encouraging working for free. I simply cannot reconcile the equation "wealth+power=happily ever after."

But I would have spoken much differently at the height of my company's success. As I am sure is true in many of our lives, it took a slap in the face from reality for me to question my contributions. This jolt came from my then three-year old daughter's battle with cancer. For the first time since I had started my business, money did not matter: I was helpless to save her. Her sickness made me reconsider who I was in her eyes and how I had influenced her life. I wondered if I was positively affecting the lives of others and questioned how I could make a contribution to my community.

In one sense I was living a life about which few people dare to dream: I was twenty-five years old with business in three states. My business cards said, "President and CEO". Yet from my point of view I was a glorified rent collector responsible for projects that were great for the bottom-line but void of value to the people who occupied them. My day to day responsibilities were my only focus and I felt trapped by others' expectations of my life.

I came to the profound realization that I was working toward a set of goals that I had never intended to achieve. I had somehow forgotten my original intention to serve my community. Fortunately, I had recorded these aspirations. I started reading old drafts of business plans and journal entries, as if I had amnesia and I was trying to remember who I once was.

The writings spoke to me from a time when I had a zeal for serving the needs of my tenants and the community at large. The writings of my past became the catalyst for my future. I wanted to leave the world a better place than I found it, but my current trajectory was forcing me to make decisions based solely on the financial gain of my

projects and stakeholders. I knew that I needed to retool and reeducate myself to be better equipped to achieve my objectives.

I found inspiration in the architectural community. Here was a group of people that understood what our community needed and was actively seeking innovation through collaboration. They understood the problems and had ideas for how to fix them and I wanted to get involved.

My experience in real estate taught me that architecture was grounded by a necessity for public interaction and participation. Whereas some people can choose not to see a doctor or hire an accountant, people are required to interact with architecture. Architecture is, for better or worse, an inseparable part of our lives constantly in view and shaping our perceptions. Architects design life's experiences with sensitivity to human interaction and the ability to honor our past while looking to the future. In this regard my tenure as a real estate professional taught me how important our projects will be to future generations. It will be our responsibility to ensure that the best projects become reality.

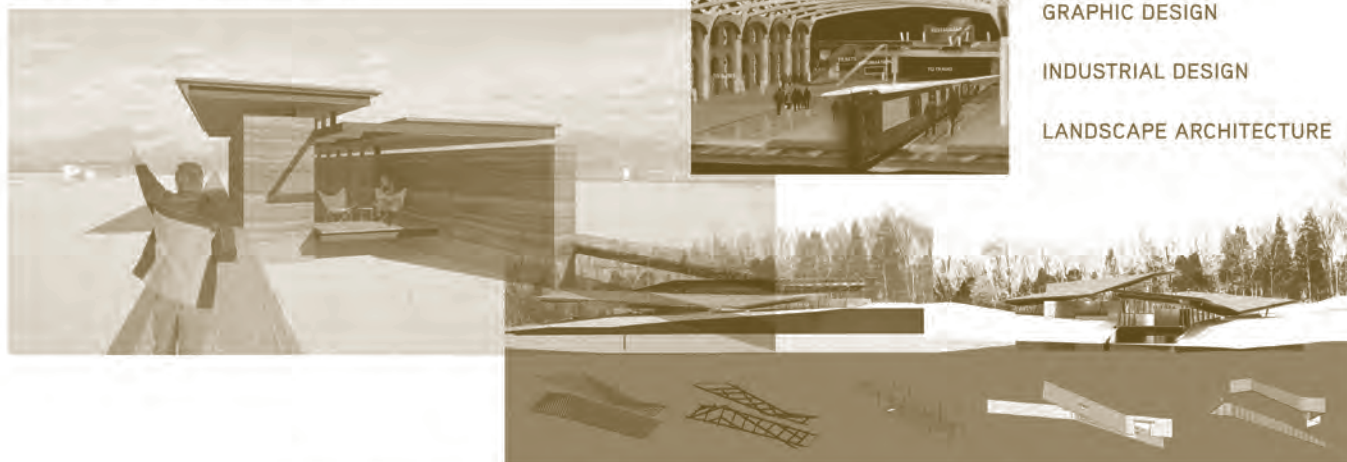
In real estate I had gained a skill set that I believed could benefit the architectural profession. I understood how to make projects happen, how to take them from an idea on the back of a napkin to a fully funded project with community support. I understood how to bring key players together and how important they all were to the project's success. Just as architects understand how to bring program, form, procession and balance to a project, real estate developers know how to bring various opinions, needs, and visions into alignment for the good of the project. We understand everyone's vision, and most importantly, we know that every opinion counts.

These skills are, in some ways, lacking in the architectural profession. Architects are educated and trained in a world where all too often projects become quite introverted and centralized by the vision of the architect. In contrast real estate developers have the unique ability to be fluent in a variety of languages. They can move from a conversation in finance to a conversation about neighborhood associations, conveying project benefits in both situations. As an architect I would be able to put myself in the uncommon shoes of the projects' stakeholders and have a true understanding of their needs. My experiences

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would allow me to craft solutions in a very holistic way that would ultimately benefit my community.

In the eight months it took for me to sell my properties and close my business, I became more involved in local and national politics. I began to pay more attention to the laws that govern the built environment and I recognized they are inseparable from architecture. I realized that the problems in the building industry were due in large part to the loss of architectural leadership and multiple layers of project development. Architects had fallen victim to a process that had become excessively streamlined and too easy for unqualified individuals to navigate. The building industry had somehow marginalized one of the most important roles in our society and effectively circumvented the architectural process with cookie-cutter houses and commercial buildings. I found inspiration in the thought of taking back the responsibilities that we had so willingly given away. This journey led me to the AIA, AIAS, and NCARB. I saw that through these organizations there was an opportunity for true empowerment. As I prepared to apply to architecture school I began my involvement with AIAS and was inspired by the passion and professionalism of its members.

Approaching graduation has given me the chance to pause and reflect on my decision to embark on such a dramatic change. I entered this journey with a very idealistic view of architecture and higher education. I felt honored not only to

be studying architecture but also that I was able to attend college at all. However, I now understand that the core of my decision was the realization that no matter where you are in life, you have the right to dream bigger.

I am often asked what I plan to do as a former real estate developer with degrees in architecture, law, and government and how these educational goals fit together. My answer is simple: they fit together through me and my dream to connect with people and affect the future community in which I will live. As architects we must have a greater understanding of how projects come to fruition, stop cringing at the thought of crunching numbers and reevaluate our ideas to better serve the needs of our clients and the public. The diversification of my education is not a life boat designed to help me bounce back and forth between professions, but rather a means to gain a more focused view of the big picture.

I believe that destinies do not have to fit in a standard 8" x 12" picture frame. I have always known that "traditional" architectural practice was not my goal. I want to not only design successful buildings, but also systems that promote intelligent projects. I want to advocate for a process that is inclusive and respectful to the professions that shape the built environment. It is my hope that the education I am earning will better equip me to do my part in leading our profession into the coming decades. **C**



ON THE PERSISTENCE OF JURIED ARCHITECTURAL REVIEWS



JOSEPH GODLEWSKI

Joseph Godlewski is a Ph.D. Candidate in Architecture at UC Berkeley. He received his B.Arch from Syracuse University and MS in Architectural History and Theory from UC Berkeley. As a designer, he's worked on several projects in the United States and abroad. At Berkeley's College of Environmental Design, he has served as a graduate student instructor of architectural design studio, history, development, and cultural geography.

Photo Credits: Nick Fratta

Why does the juried architectural review maintain its position as the standard model for evaluating student performance in architecture school? Despite radical technological and cultural developments, as well as several critiques leveled by educators and institutions who have questioned the appropriateness of the jury, the centrality and format of this practice has remained relatively unchanged in architectural schools throughout the United States.

In the past several decades there have been fundamental advancements in the tools which architects use, the ways we communicate, and how we construct buildings. We have developed new fabrication methods, transformed drafting and modeling software, and created new criteria by which architecture is evaluated—sustainability, accessibility, and social equity to name a few. Furthermore, the world has changed, and the demographics and social dynamics of architecture schools have responded to globalization and the sexual and digital revolutions. In the midst of these shifts, some have questioned the premise and efficacy of the juried architectural review as an institutional practice.

In the 1990s, there were several critical accounts documenting the practice, questioning its legitimacy, and suggesting alternative approaches.¹ Dana Cuff commented that during reviews, students tend to be “passive recipients of jurors’ opinions.”² Katherine Anthony ethnographically studied this “rite of passage” suggesting it has the potential to become less mysterious and subjective and part of a “cooperative” learning environment.³ Outsiders were more disapproving. In 1996, the much discussed Boyer Report sponsored by the Carnegie Foundation noted the “autocratic” and “Kafkaesque” quality of reviews with sleep-deprived students “facing a panel of inquisitors.”⁴ The committee, which researched architecture schools for several years, questioned whether design juries “encouraged free-flowing dialogue.”⁵ Ultimately, the report recommended modifying the format in order to “make it into a more communicative experience.”⁶ More recently, the AIAS Studio Culture Initiative has made repeated and comprehensive calls to action in an effort to encourage the “participation of all stakeholders [to] create a culture of open dialogue” in the larger arena of the studio, not just the

practice of juried reviews.⁷ Since its inception in 2000, the AIAS task force has observed several accomplishments though also notes significant challenges facing the dissemination and implementation of studio policy changes.⁸ Notwithstanding these legitimate criticisms and well-intentioned calls to action, the juried review has endured, maintaining its institutional preeminence.

Critics have noted that as a field of study which values design, experimentation, and challenges to everyday conventions, architecture’s wide acceptance of this practice is striking.⁹ Though variation exists, architecture schools tend to be un-reflexive when it comes to the practice of “expert” jurors sitting in front of a single student with paper drawings hanging on a wall. Alternative models have been implemented, though by and large, the tradition of the juried review has remained relatively unchanged. A recent handbook on architecture crits lists several interesting alternatives. Group reviews, role-playing reviews, and exhibition reviews are just some of the suggestions put forth in an effort to undermine the rigid structure of traditional reviews and forge what the authors call “creative partnerships” between students, faculty, professionals, and the community.¹⁰ But the difficulty these approaches seem to have in gaining institutional traction is telling. Citing the work of sociologist Pierre Bourdieu, a few scholars have astutely suggested deeply-rooted processes of enculturation within architectural institutions as the grounds for the slow adoption of curricular changes.¹¹ Stevens writes, “Any characteristic of the field that endures for generation after generation can be no mere accident... but must arise from deep structural properties.”¹² Though, because this process of change is slow it should not be reason to turn to a form of helpless cynicism. Instead, we should robustly experiment with a variety of approaches, praise innovative breakthroughs, and disseminate news of pedagogical successes in search of ways to re-invigorate this time-honored, but far-from-perfect institutional practice.

Before recklessly calling on schools to eliminate this evaluative ritual, it should be noted that architectural reviews have their merits. They first gained prominence as a teaching tool in the middle of the twentieth century.



In contrast to the closed-door silent reviews of the École des Beaux-Arts *charrette* system, the public nature and transparency of the juried open reviews seem at first like an improvement. Students now have the opportunity to defend their projects as well as witness how their peers are assessed. In the act of presenting their projects, students develop invaluable skills in public speaking and rhetoric they can put to use in several fields of study and professions. The contentious environment of the review serves as a kind of political proving ground for ideas. The necessity to prepare and defend a large amount of material in front of an audience breeds a healthy degree of camaraderie and competition, increasing the quantity of production and quality of the work. Students often respond positively and creatively to the challenges and demands of this environment. Lastly, the centrality and consistency of the ritualized tradition of the architectural crit helps build a community of scholars with a similar language and a shared set of values and experiences. It sets disciplinary boundaries, builds scholarly legitimacy, and helps construct the identity of the discipline. It is telling that this publication is named after the practice.

These points aside, juried architectural reviews have some critical drawbacks. The various critiques levied in the past two decades should be taken seriously. While the hierarchical centrality of the practice need not be abandoned, the nature of the practice must be questioned and revitalized. Traditions are strongest when they're continually challenged and re-imagined in a new context, lest they become stale and meaningless conventions. The architectural studio – ostensibly a site for creative experimentation and critical reflection – should be the last place where a customary act is blindly accepted and mechanically performed.

One aspect which prior criticisms of the jury system have not properly addressed is the habit for reviews to prioritize spoken communication. While the opportunity for students to verbally guide reviewers through their projects develops certain skills, it impairs the central goals of the studio: to teach people how to design, make meaningful spaces, and communicate architecturally. The development of students' aptitudes for visual and architectural expression is actually undermined by the

verbal crutch provided by the crit. There is often a gap between the student's theoretical expositions prefacing the review of the work which simply is not communicated graphically. A chasm exists between what is loftily described and what is materially presented.

The verbal narrative prefacing a project also forecloses possible readings the work may evoke by itself. Jurors justifiably tend to evaluate the work according to the thesis set forth by the student. Yet the recent proliferation of graphic software has allowed students to produce provocative visual material in a relatively short time span. Instead of allowing the material to visually communicate ideas, though, the design is often short-circuited by the student's verbal argument which jurors then use to structure their comments. Unfortunately, the ability to speak becomes a kind of escape hatch for students who are under-prepared. Conversely, students who are less verbally refined invariably have less successful reviews. International students are particularly at a disadvantage in this situation. Additionally, a focus on the presentation and discussion which ensues heightens tension and unnecessarily puts the student on the defensive. Further, the jury system as traditionally practiced puts the entire onus of criticism on the part of so-called design "experts." Another consequence of this custom is that it marginalizes the active participation of students whose work is not currently being reviewed. As a result of the demands of the *charrette* deadline, many of these students are barely conscious as it is.

Lastly, architecture reviews unwittingly buttress the myth of singularly conceived works of architectural genius. With individual students heroically presenting every aspect of their carefully orchestrated projects before a seated jury, the ghost of Howard Roark looms large. Though this arrangement may support an individualistic conception, the practice of architecture is actually thoroughly collaborative and often compromised. Multiple forces influence the design of any project, many of which are well beyond the creative will of the architect. Instead, architects are required to perform improvisationally – acting and reacting to a shifting terrain of political, economic, and sometimes completely random forces. The growth of technical specialties and sub-disciplines with whom which

NOTES

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2. Cuff, D. *Architecture: The Story of Practice* (Cambridge: MIT Press, 1991).
3. Anthony, K.H. *Design Juries on Trial—the renaissance of the design studio* (New York: Van Nostrand Reinhold, 1991).
4. Boyer, E., & Mitgang, L., *Building community: A new future for architecture education and practice* (Princeton: The Carnegie Foundation for the Advancement of Teaching, 1996), 93-95. For critical discussions of the report's findings see Katerina Ruedi, "A Commentary on Architectural Education" in *Journal of Architectural Education*, Vol. 51., No. 3 (February 1998), 148-152; and Carol Burns, "Re: Views of Findings on Architecture's Way Forward", in *Journal of Architectural Education*, Vol. 51., No. 3 (February 1998), 153-157.
5. *Ibid.*, 93.
6. *Ibid.*, 95.
7. American Institute of Architecture Students, "Toward an Evolution of Studio Culture: A Report on the Second AIAS Task Force on Studio Culture" (2008), 25.
8. *Ibid.*, 26.
9. *Supra* note 3, 120.
10. Parnell, R. and Sara, R., *The Crit: An Architecture Student's Handbook*, Second Edition (Oxford: Elsevier Architectural Press, 2007), esp. chapter 6, "Alternative Reviews". The Boyer Report also cites alternative practices (94).
11. Crysler, G., "Critical Pedagogy and Architectural Education", *Journal of Architectural Education*, Vol. 48, No. 4. (May 1995), 212 and Stevens, G. *The Favored Circle* (Cambridge: MIT Press, 1998).
12. Stevens, *Favored Circle*, 217.

WHY ARCHITECTURE at ILLINOIS?

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Photo: Aaron Delmer, Graduate Prize, Ferry Terminal, Ho Chi Minh City, Vietnam.

architects must team only accentuate this negotiated state. This reality underscores the need for employing a variety of teaching methods which encourage more active participation and critical thinking skills.

Objectively examined, the architecture review as practiced is an incredibly *inefficient* tool for teaching students to design and think critically. One could imagine a number of alternatives which could reduce this strain and reliance on verbal-centric and juror-led reviews. A modified, more transparent version of the Beaux-Arts *charrette* system which assembles student work, but is collectively evaluated by the entire studio without a verbal presentation by the student, could be an interesting experiment. The professor could grade student participation during the critique process. This way, students could develop critical thinking skills productively, rather than on the defensive and overly self-interested. Another possible alternative could embrace the proliferation of social media technologies. The role of social media in recent political movements suggests they are a powerful medium for the dissemination of ideas. They encourage participation, they are immediate, and they are not as spatially fixed

as many architectural traditions are. Their ability to connect people and facilitate conversation should be embraced by the design review practice. Images and animations of students' projects could be presented on a screen followed by a live feed chat featuring posts by professors and students discussing the work. The jury could take on the aspect of a collaborative game that might even make this drawn-out practice more lively and stimulating. Though perhaps this is not a singular replacement of the traditional jury, it might be one of many tools used in a diverse repertoire of methods to catalyze discursive engagement.

So the question remains: why is it that architecture schools have not adopted a serious challenge to the *status quo* of the juried architectural review? Premised on false assumptions and ultimately ineffective as a teaching tool, the crit has exhausted its use in the face of tremendous technological and cultural change. Students deserve a re-energized, more engaging and empowering pedagogical method for evaluating their work, though the substantive implementation of alternative approaches may be a slow and continually evolving process. **C**

FROM THE ARCHIVES

THE ARCHITECTURAL HARDLINE: CONCERNS, COMMENTS, CONSIDERATIONS FROM THE STUDIO

".... there is an inevitable optimism that persists in education, it persists because students will not let it die. Today's students are not naive. They know the challenges that lay ahead for them. They know how difficult it will be to change the world to the ideal world they know it could be. They are pragmatic. Yet, each one is a poet."

— Robert M. Beckley¹

JON A. MAASS

Fourth-year student,
University of Michigan

A version of this article was
published in *Crit* 27, Fall 1991

For the past two years I have lived the greater part of my life in a state of extension. I have not only extended my physical and mental capabilities but have also stretched the limits of my professors' patience by continually asking them to tack on "just one more day" to their already cast-in-stone deadline. Although I do not claim to be the only architecture student to walk the deadline tightwire, my peers would agree that I have presented my fair share of wet-glue models to juries.

As a senior I often find myself reflecting on where I have been and where I am going: How have I grown intellectually and how has my schooling guided me, helped me, or hindered me in pursuit of my goals? If I allowed my letter grades to be the sole indicator of my performance, I would think myself well on my way to becoming an architect that could possibly make a difference in this world. However if I relied on some of the comments from juries to which I have presented my work to foretell my future, I think I would have long since transferred schools.

I would be hard-pressed to find a student of architecture who has not questioned the method or approach with which he or she has been taught and evaluated as a pupil. Architecture has been taught in the studio format and judged by juries since the conception of the school of architecture. Every 'pro' of this system can be countered by a 'con,' which is the probable reason for its longevity. Robert Beckley, Dean of the University of Michigan College of Architecture and Urban Planning, captures this: "I defended [the studio format] on the basis that it is part of the professional culture – it's the way we work within the profession. It's not perfect, but it does support two phenomena – it deals with problem-solving and form making, and it uses the one-on-one tutorial approach which has long been a model for liberal education."²

But longevity should not imply total satisfaction with the studio-jury system on the part of the students and faculty who employ it. Many feel that, since the studio instructor assigns grades, his or her style of design must be adopted by the students. This became very evident to me as I paid close attention to Peter Eisenman's graduate studio at Ohio State University. It seemed peculiar to me that all of Eisenman's students produced very similar designs, "Peter-patterns," sidelining their individuality in favor of Eisenman's style of design. "I found that if you want an 'A' in the design studio, you have to play to the professor's theory of design," agreed architect David Kiraly, a graduate of Kent State University's architecture program. "By the end of the term you have a group of professor clones with good report cards."³

Obviously the professor can play many roles within the studio. Peter Osler, instructor at the University of Michigan, feels a professor should not impose his or her views upon a student outside of the student's original idea, but rather work with the student's original parti and allow learning to come from collaboration among the students. Throughout the term he conducts in-class review sessions in which students present to the studio as a whole. Most importantly, this allows for a multi-faceted dialogue between all members of the class that replaces the otherwise monologue-like lecture a professor may deliver about each project. By formulating their own criticisms students must also defend these beliefs. They begin to establish their own set of values and mutual learning results. Osler terms this as a "synergizing energy that develops among the group and stimulates the studio as a whole."⁴

The Europeans have positively addressed this problem of professor overkill in their academic community by

NOTES

1. Robert Beckley, "From the Dean," *Dimensions: Journal of the University of Michigan College of Architecture and Urban Planning*, 1991, 13.
2. Stephen Kliment, "Academe or Boot Camp," *Architectural Record*, July 1991, 90.
3. David Kiraly, interview with author, August 16, 1991.
4. Peter Osler, interview with author, August 20, 1991.
5. Alvin Boyarski, Lecture, The Ohio State University, Columbus, Ohio, October 25, 1990.
6. *Supra* note 3.
7. Robert Harbison, "Visions of Youth: Are Young Designers Out of Sync with the Times?" *New Statesman & Society*, July 21, 1989, 45.
8. Betsy Williams, interview with author, August 20, 1991.
9. Kathryn Anthony, "Juries on Trial," *Architectural Record*, July 1991, 78.
10. *Ibid.*, 77.
11. *Ibid.*, 77.
12. See *supra* note 1.
13. *Supra* note 4.

omitting the formal studio altogether. In a recent lecture to American students, Alvin Boyarski, director of the Architectural Association in London, boldly stated his belief that "to design in large, public rooms like you do here with such a great lack of inward focus is simply wrong."⁵ He explained how English students design in the privacy of their own rooms, and only when fully prepared do they bring their work to the AA for critique. Osler feels this format favors European students in the respect that "they must learn to discipline themselves since they are pressured not by professors but by themselves to produce work."⁶ As for the quality of the often theory-based work done at the AA, Robert Harbison states, "for all the talk which goes round about how unrealistic AA training is, it is the only school which never forgets that architecture is sensuous."⁷

Many would argue about the exact role of the studio. Should it closely simulate the professional world? Should technology be integrated into design projects? If design can even be taught, is it best taught in the studio format? Regardless, few would doubt the studio experience teaches important lessons that are essential to those in professional practice. Betsy Williams, also a design professor at the University of Michigan, believes that, although "studio is not meant to simulate the 'real world', it can be used to teach such skills as dealing with deadlines, pacing your work, communicating your ideas, and working within groups."⁸ It is unfortunate that students do not realize that these organizational skills along with such criteria as attendance, attitude, originality, improvement, product, and most importantly, process, are the basis for their evaluation. Instead of emphasizing the design process students think the most important step of the project is the all-nighter before the review, when they prepare the final model and drawings. Most believe that a time comes when the 'piper must be paid' and with racked nerves, sweaty palms, a million-dollar model and no sleep, students approach the bench and address the all-knowing Grim Reaper panel.

In this way, the studio and the culminating all-nighter become counterproductive as Kathryn Anthony explains in "Juries on Trial:"

"The late nights and weekends in studios often encouraged in schools reinforce the idea that architecture's awards are not commensurate with the work expended. They also indicate that it is perfectly acceptable to disregard time management skills and other organizational skills (such as pacing)...The studio becomes more of an endurance test for the survival of the fittest, rather than a true learning experience."⁹

The task that the jury must undertake is not easy to accomplish in a matter of minutes for each student. Most projects become quite complicated and involved by virtue of the issues they address, and criticizing the final project without considering the design process neglects the importance of that process. Process should be the most emphasized aspect of design in our schools since it can be applied, in one way or another, to every problem.

A jury can be a constructive indicator as to how successful a project is, but by no means can it be the sole indicator of how well the student approached a problem and executed a design. Anthony does her fair share to identify the shortcomings of the jury system after interviewing over 600 architectural students, faculty, and practitioners. She points out that not only are students dissatisfied with juries as a whole, but that they learn very little from them, and when they do, it is often too late to act upon the suggestions. She also states "educators know surprisingly little about the effectiveness of juries as teaching and learning techniques, and are often unclear and ambiguous about their purpose...students and faculty agree that too many faculty criticize harshly, often competing with each other at the student's expense."¹⁰

It is hard to believe that any good can come from such an experience. Lawrence Booth fears that, "If we taught medicine this way, we'd all be dying."¹¹ But professors assure us there is a reason for everything: "We really get knocked around for the rest of our lives by clients," notes Jacqueline Robertson. "It is useful as a kind of basic training to get used to that and to think on your feet and not get all weepy when someone criticizes you personally rather than your work."¹² Osler agrees: "Architects must justify themselves to clients all the time. . . The jury is a good practice for students to think quickly."¹³ But he also points out that the jury often becomes a showplace for jurors' egos and intelligence, and that strong, one-sided criticism without dialogue does little for the student.

With all of its faults and tribulations, the jury-studio system has stood the test of time and has produced quite a few great architects. But we should not be satisfied with this system for, just as in design, satisfaction breeds stagnation. If students see problems with the way in which we are being taught, it is in our best interest to bring these concerns to those who can do something about them. If we do not, then we will continue to become products of an imperfect educational system. We have a responsibility to educate those who will one day further the profession. This does not mean we must all become instructors, but that we should make some positive contribution to architectural education. **C**

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FEATURES

features

MASTER BUILDER TO MASTER CRAFTSMAN: ARCHITECTURE IN VIENNA AND PRAGUE: STUDY ABROAD REFLECTIONS

NICK FRATTA

Nick Fratta is in his fourth year of the Master of Architecture program at the University of Kansas. In the centennial year of the School of Architecture Design and Planning, he looks forward to developing a socially active academic community through their AIAS chapter. Nick served as Freedom by Design Captain in 2010-2011 and currently serves as 2011-2012 Chapter President.



Consider a grayscale, that first exercise of every drawing studio – the ease of the black on the left, the white on the right, and the surprising elusiveness of each shade between. As architects we define, label, and categorize, and in an attempt clarify to black and white, we neglect the complexity of gradients. A striking analogy can be made to architectural history. In organizing elements of aesthetic movement, role of the architect, and scale of the project, a larger gradual progression is lost. Architects and their works at the focus of the exhibition “Architecture in Vienna and Berlin: Urban Form and Culture in Transition” clarify a grayscale through architectural history. On one side, the age of architect as master builder: heavy, dense, black; the other side architect as master craftsman: light, open, white.



Stephansdom

Vienna, Austria
Completed 1137

GOTHIC

A cathedral such as Stephansdom truly exemplifies the impact an architect may have in the role of master builder. At the center of Stephansplatz, at the center of Vienna, at the center of Austria, the original architect had great planning responsibility to anchor the place at multiple scales. Further, the Gothic style and the accumulation of Gothic arches signify an optimal union of appearance and performance, an execution of formal design through structural engineering. The architect also addressed the interior and exterior decoration of Stephansdom in the way of proposed sculpture, stained glass, mosaic, and roofing pattern. As roles of architect, engineer, planner, and design begin to split, ability to comprehensively address all elements of design dissolves. Scale at which this comprehensive control is exercised will reduce, specialization will push the architect out of the public sector, and projects of holistic design will occur only in exceptional circumstances.



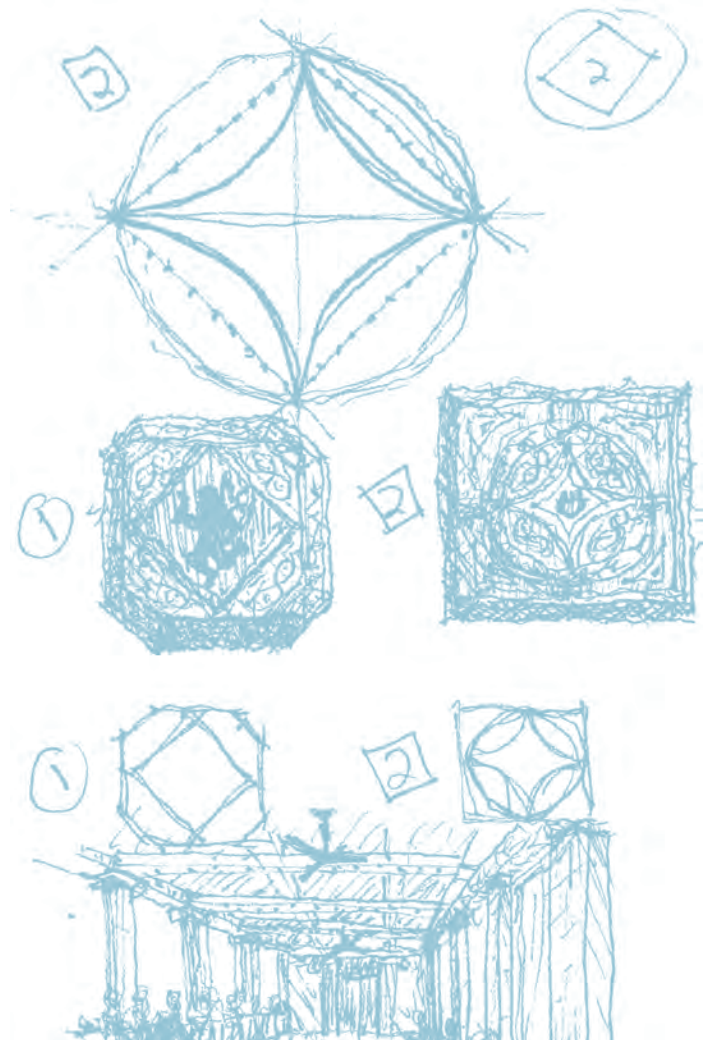
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Musikverein Wien

Vienna, Austria
Theophil Von Hansen
Completed 1831

NEO-CLASSIC

Wiener Musikverein, also a civic building but on a smaller scale than Stephansdom, required Von Hansen to address critical planning and structural engineering elements. Of course, the quality of the hall as a performance space was Von Hansen's primary concern. Ability to design hall proportion, finishing materials, coffer detail, placement of sculpture and more contribute to reverberation in the hall, regarded internationally as that with the greatest natural acoustics. However, a good degree of the acoustic performance is attributed simply to chance – the effect of details too finite to anticipate accurately. As the architect's practice of comprehensive design wanes, success of civic buildings depends increasingly on chance.





Wiener Staatsoper

Vienna, Austria
August Sicard Von Sicardsburg
and Eduard Van der Null
Completed 1869

NEO-RENAISSANCE

Though Staatsoper and Wiener Musikverein are similar in scale and purpose, city planning plays a primary concern in the design of Staatsoper. The opera house was the first major building on the Ringstrasse, part of a controversial city expansion commission. Because extreme visibility to the public permeated this project, the requirements and expectations were high. Criticism began early, mocking the street-level entry and lobby spaces as a “Sunken Chest”, and continued relentlessly until Null’s suicide and Sicard’s death from a heart attack, both before completion of the Opera House. Though today the Wiener Staatsoper is a prized landmark of Vienna, it exemplifies a project in which huge demands overwhelmed the architect’s holistic capabilities. This condition will intensify as construction technology advances and public responsibility of design increases, causing the master builder approach to fade. Elements of design which the architect addresses become smaller in scale as the overall projects themselves become smaller and more exceptional in circumstance.



Kirche Am Steinhof

Vienna, Austria
Otto Wagner
Completed 1905

SECESSIONIST

To begin a discussion of Secessionist architecture, it is critical to note that Secessionism as a movement began with artists organized in objection to dominant conservatism and historicism. With no inherent guiding aesthetic principals, architects adopting the movement risked design of decoration – simply refined Art Nouveau. Wagner’s work averted this regression, re-asserting potential in holistic design through Kirche Am Steinhof. Unlike other churches, Kirche am Steinhof was semi-private, part of the larger Steinhof Psychiatric Clinic complex. Wagner addressed the clinic’s specific needs in smaller details of the design: pews were shortened for ease of attendants reaching patients should they suffer a seizure during services, an antiseptic holy water dispenser restricted transfer of illness, and a sloped floor aided regular cleaning and draining. Improved furniture and fixture design appears more as public presence and civic scale are foregone for smaller-scale opportunities.

Postsparkasse

Vienna, Austria
Otto Wagner
Completed 1907

SECESSIONIST

This work of Wagner's stands out for its remarkable union of engineering and aesthetic in full realization of Secessionist architecture in a civic building. Designing with new steel technology, and a thinner envelope, Wagner recognizes a new opportunity to express construction through detail. Granite and marble façade panels are studded with aluminum rivets attaching them to the structure. Chairs, writing tables, and lighting fixtures designed specifically for the interior of Postsparkasse also feature a similar detail of construction. Other architects rapidly assume this new concept of exposing assembly, and the transition from Secessionist to Modernist is accelerated. Wagner's place between builder and craftsman is pivotal – he ushers architects from engineering to material innovation, from decorator to industrial designer, establishing a new standard of attention to even the smallest element of a design.

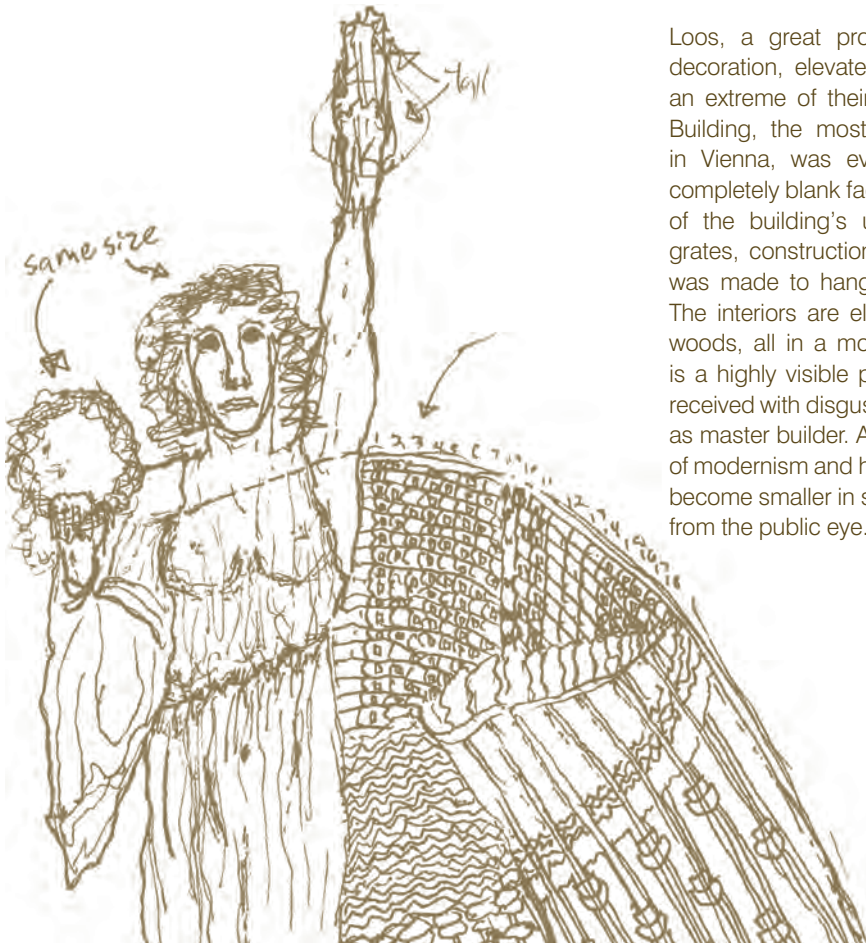


Goldman and Salatsch Building

Vienna, Austria
Adolf Loos
Completed 1910

MODERNIST

Loos, a great proponent of Wagner's reduction of decoration, elevates the execution of the principal to an extreme of their time. The Goldman and Salatsch Building, the most important building of modernism in Vienna, was even rejected by the public for its completely blank façade on the top four floors. Because of the building's unfortunate resemblance to sewer grates, construction was stopped until a compromise was made to hang flower boxes on all the windows. The interiors are elegant with Italian marbles and rich woods, all in a modernist scarcity of decoration. This is a highly visible project, approached holistically, and received with disgust, evidencing the decline of architect as master builder. As Loos continues to refine his vision of modernism and holistic design approach, his projects become smaller in scale, and continually more removed from the public eye.



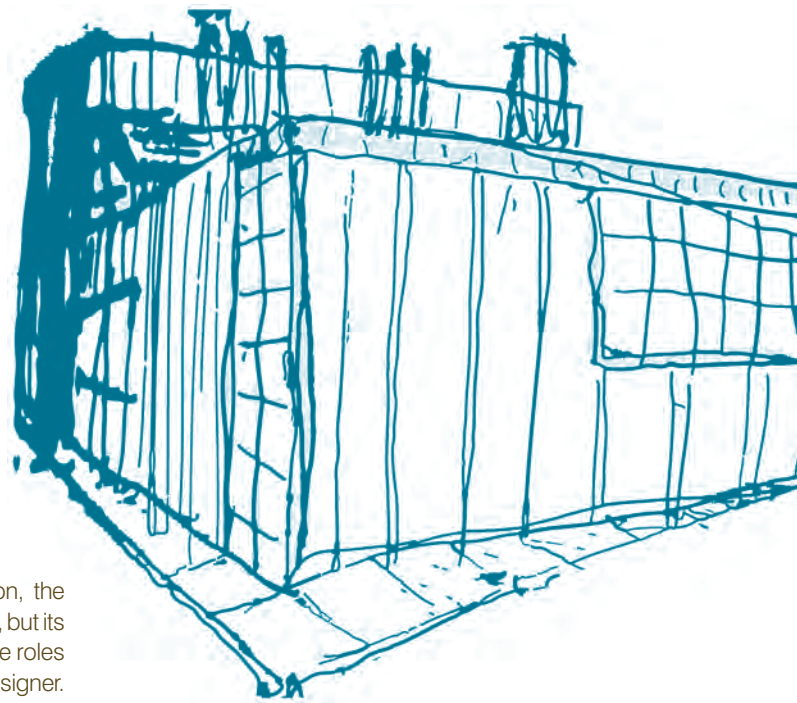
Müller Villa

Prague, Czech Republic
Adolf Loos
Completed 1930

MODERNIST

The Müller Villa is, by the architect's consideration, the fullest realization of function-driven modernist vision, but its true merit is the degree to which Loos embodies the roles of furniture designer, interior designer, and fixture designer. Especially noteworthy is the writing desk – created for the client's office, featuring a letterbox aperture on the inward-facing side and a door for letterbox removal on the outward-facing side, the children's bedroom – bright with primary colors and furnished with small, sterile furniture for comfort and health of the children, and the dressing rooms of the husband and wife – both fitted with attire-specific storage mechanisms and constructed of wood selected to reflect the individual. Although the roles of engineer and planner are now gone, the project is private, and scale is restricted to single family residential, the architect has built a personal relationship and achieved a greater understanding of the client. This home displays positive effects of specialization in architecture, but is unfortunately not a typical result. At this time, multi-disciplinary design teams have begun to emerge as the preferred model of practice, and following industrial advances of the coming years, will dominate building culture.

Photo Credit: Martin Polák, Markéta Othová
© Muzeum hlavního města Prahy, 2007



Narodni Trida Complex

Prague, Czech Republic
Completed 1971

COMMUNIST

While retaining the form and spatial efficiency of modernism, taking a few aesthetic cues directly from Müller Villa (yellow mullions and frames on glass), the communist architecture of Narodni Trida Complex is enormous and impersonal in scale, encompassing a program of nearly all commercial typologies. Hosting retail, dining, offices, and a train station, the massive building is a prime example of rigorous concept executed under the political regime. This building model proved most efficient and permeated public architecture globally, abolishing the architect as master builder and master craftsman. Now it seems that when an architect, or even a small design group, is granted the opportunity to assume comprehensive control of a public project, the opportunities presented by technological advancement overwhelm practical responsibility. The result is the majority of contemporary architecture celebrated today.

Kunsthhaus Graz

Graz, Austria
Peter Cook and Colin Fournier
Completed 2003

CONTEMPORARY

Kunsthhaus Graz, built as part of the European Capital of Culture celebrations, is a product of unusual circumstance like other works examined. This allowed designers Peter Cook and Colin Fournier to create the “Friendly Alien” of Graz; an institution for international exhibition of multidisciplinary multimedia contemporary art work. Advanced computer modeling made possible the organic structural forms and complex envelope fabrication. Inside the innovative skin, however, are awkwardly standard white walls and uncomfortable stairways. The extreme contrast between common architecture of Graz and Kunsthhaus Graz give the impression the art museum is more self-aggrandizing for the creators than it is celebratory of the city. Other works of the same year, built for the same cultural celebrations, are guilty of the same – a form more impressive than program conceived by an architect struggling to facilitate the convergence of new technology and established typology.



Murinsel

Graz, Austria
Vito Acconci
Completed 2003

CONTEMPORARY

Murinsel, another construction for the European Capital of Culture celebrations, attempts to reconceive the bridge as a connection to water rather than a means over it. To activate the River Mur and join opposite sides of Graz, Acconci floats an open-air theater, playground, and café inside an organic steel wave. Because structural and hydraulic engineering were the most demanding elements of this design, form and program were entirely of the designer's conception, and there is relatively no envelope or interior to evaluate, the role of the architect in this project is particularly difficult to isolate. Acconci's bridge exemplifies a new state of contemporary architect in a larger building culture. No longer do master builder, master craftsman, or the gradient variations between encompass the roles of an architect. Today's master builder is a facilitator of many specialized professionals; today's master craftsman seeks and utilizes every opportunity for creative intervention.

Current Conditions

While having lunch with other students and our professor at the Naschmarkt in Vienna, we noticed a screw-fastener binding that we found architectural and playful. Later that afternoon an exhibit at the Museum of Applied Arts evoked the same reaction. Old furniture had been aggressively deconstructed, re-oriented, and transformed into new furniture. These objects are the product of architect as hunter-gatherer, the next gradient of the individual architect, seeking opportunity and scavenging resources in animation of the everyday. The opposing collaborative model of practice promises different results. Because specialization ultimately enables more expertise to inform design, there is an ability to execute planning, engineering, and construction better than master builders and to address use, personal client relationship, and aesthetic of assembly better than master craftsmen. The white at the end of the grayscale is not a dissolution of the architect archetype; it is an invitation to find new methods in a malleable building culture. White is an invitation to responsibly leverage advances in service to our public. White is a new roll of trace. Find a pen. **C**

FACES: A STUDY OF THE COMPLEXITIES OF THE CENTRAL ASIAN FAÇADE



ANGIE TABRIZI

Angie Tabrizi is in her fourth year of the B.S.A.S. program at the University of Wisconsin-Milwaukee, with minors in French and Spanish. She is also President of the UW-Milwaukee AIAS chapter.

What is a façade? Is it the outermost surface of a building? Is it just a system of enclosure? Or can it go further, turning corners, penetrating openings, filling spaces, crawling across vaulted ceilings, and canvassing courtyards? Unlike contemporary paper-thin houses with six-inch stud walls, the buildings of Uzbekistan communicate an intrinsic depth of material. This Islamic façade blurs the boundaries between inside and out, wall and ceiling, apertures and skin, creating details that provoke thoughts, inspire questions, and require second glances.

Not only can a façade define the limits of a building, it can also produce rapturous and enthralling spaces. In some cases the building skin evolves from the outermost surface and details, through openings and across ceilings, creating transition zones between in and out. This approach can establish rooms for living that connect the interior courtyard to the furthest peripheral plane. This ambiguity of façade evokes a sense of the unknown, providing the mystery that enlivens architecture.

This analysis focuses on two cities in Uzbekistan, Bukhara and Samarqand, two vital oases on the ancient Silk Road.

Bukhara is one of the best-preserved medieval cities in the world. The original urban fabric still survives today and the tenth-century walls of the city are partially intact.¹ These walls were crucial to the survival of the oasis: if the sand was kept out, the city would live. Unlike Bukhara, Samarqand has evolved more because of its closer connections with modern civilization.² Nonetheless, both contain wonderful examples of the richness and depth of the Central Asian façade and culture.

Central Asia is architecturally and historically significant as one of the longest-inhabited areas in the world. In spite (or perhaps because) of successive conquerors over thousands of years there has remained an uneasy calm. Amidst the ubiquitous discord in Central Asia, the lifeline represented by the Silk Road has endured; no matter who ruled, the vital trade route was protected. Without the Silk Road there would have been no transport of goods, people, and ideas between the vast expanses it connected. These encounters created cultural fractures that provoked the evolution of Central Asia. The Silk Road was not just a route for trade, but a global understanding of what was necessary to survive.³

THE LAYERS OF FAÇADE: TILLA-KARI MADRASA



1 SPACE CREATED BETWEEN FAÇADES: The area of a façade is not strictly limited to the building of which it is a part. The proximity of buildings across the street creates an inhabitable “in-between” space. Here, the sky-high facades of the Registan buildings opposite the madrasa create a courtyard between them, a large gathering space for Uzbeks and tourists.

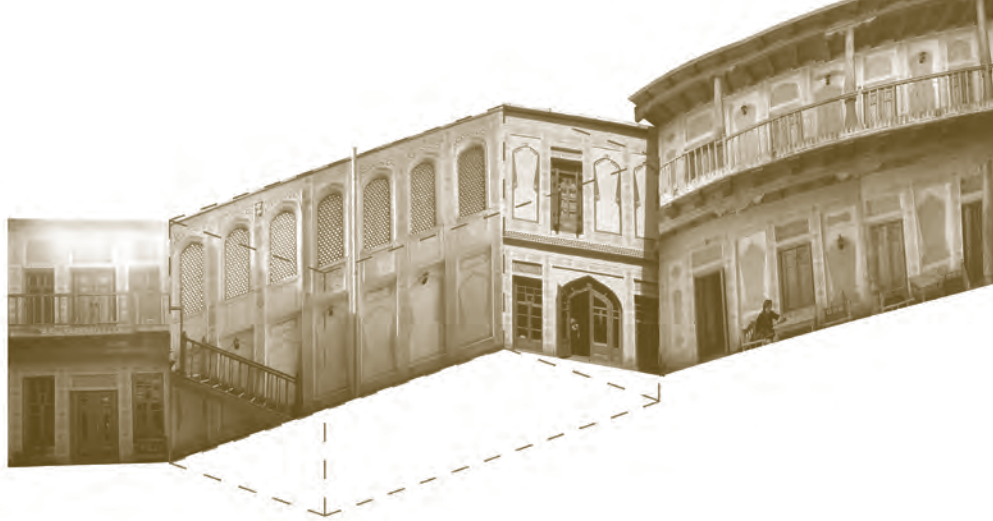
2 BASE: The extreme ornamentation on the Tilla-Kari Madrasa, built around 1660 AD continuing the architectural legacy of the Timurids, is supported by the heavy stone base that blankets the expanse of the adorned perimeter. This base provides the footing required by the depth of the adornments, whose crevices and protrusions shape another layer of façade.



3 OUTSIDE SURFACE: The madrasa is encrusted with stunning lapis lazuli tiles, but this display of wealth only occurs on the face that is meant to be seen – the front. At the time of construction, influencing visiting diplomats with lavishly decorated buildings was imperative.

4 DEPTH OF WALL (APERTURES): The most dynamism occurs where the inside and outside converge. This happens in a number of ways: the extrusion of an opening from out to in, a skin wrapping an aperture and then spreading across an arcade, or a material enveloping a depression, interrupted by a screen which further manipulates the space created.





KOMIL BED AND BREAKFAST

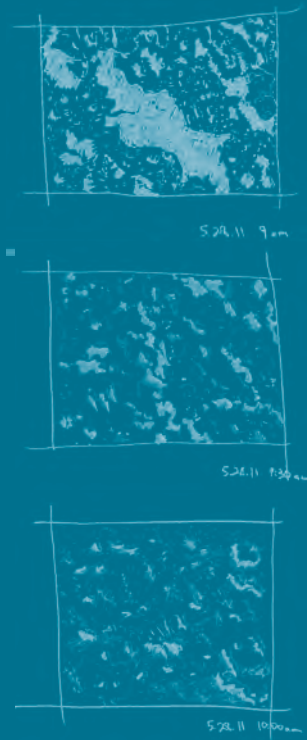
One of the spaces inside the Komil Bed and Breakfast in Bukhara demonstrates the characteristics of the typical courtyard. Unlike the vivid depth of exterior façades, this interior façade is much thinner in section. The only thickness is provided by the awning and balcony on the west and south faces, shading the main living space during the hottest parts of the day and adding recreational space. This richness in construction has greatly impacted how Uzbeks use this main living space. Without the shade, the courtyard would be a completely different, underutilized space.

Since one has already passed through the privacy screen of this nineteenth-century residence, little transitional space from the public realm is needed. The private façade of the courtyard differs from the public façade of the street. Large windows allow views into the residence, unlike the unpenetrated solid walls lining the street. The courtyard is the soul of the home; this essence of family life is protected from strangers or outsiders but is exposed to all those who have been allowed through the privacy screen. Dining, cooking,

relaxing, and family time all take place in the courtyard for the majority of the year. Ultimately, the façade blurs the line between public and private by leading users through a multi-layered privacy screen similar to that of the Tilla-Kari Madrasa.

TEXTURE

Very little has changed in building technology over the centuries: buildings are still constructed of clay and whitewashed for protection. This sustainable vernacular practice creates rough, organic textures and depressions within the surface of the wall. The finish casts complex shadows on its skin, verifying that there is depth and richness even within the simplest façades in Central Asia. This façade texture is seemingly unintentional. Yet shadows play on the coarse surfaces, eliminating glare in this extremely hot and sunny climate, whereas a wall plane finished smooth according to “advanced” building practice would produce blinding glare. Not wooed by fleeting trends, the Uzbeks have not significantly adapted these utilitarian construction methods for thousands of years. Their steadfast principles are determined according to their region, climate, and culture.



5

INSIDE SURFACE: Entering the dormitories, the thick façade envelops the inside surfaces of the walls. Because these rooms are carved from the poché, the dormitories are more extrusions of skin rather than independent rooms. The walls are unadorned and crude, as most of the students' activities took place in the courtyard.

ENTRY/ANTECHAMBER: When passing through the main entry, one must not enter perpendicularly into the courtyard. The visitor is purposely brought inside by two angled paths, disorienting the guest from the outside world. The surfaces of the entry sequence walls begin to bridge with the interior courtyard faces, a compelling feature derived from Uzbekistan's diverse past.

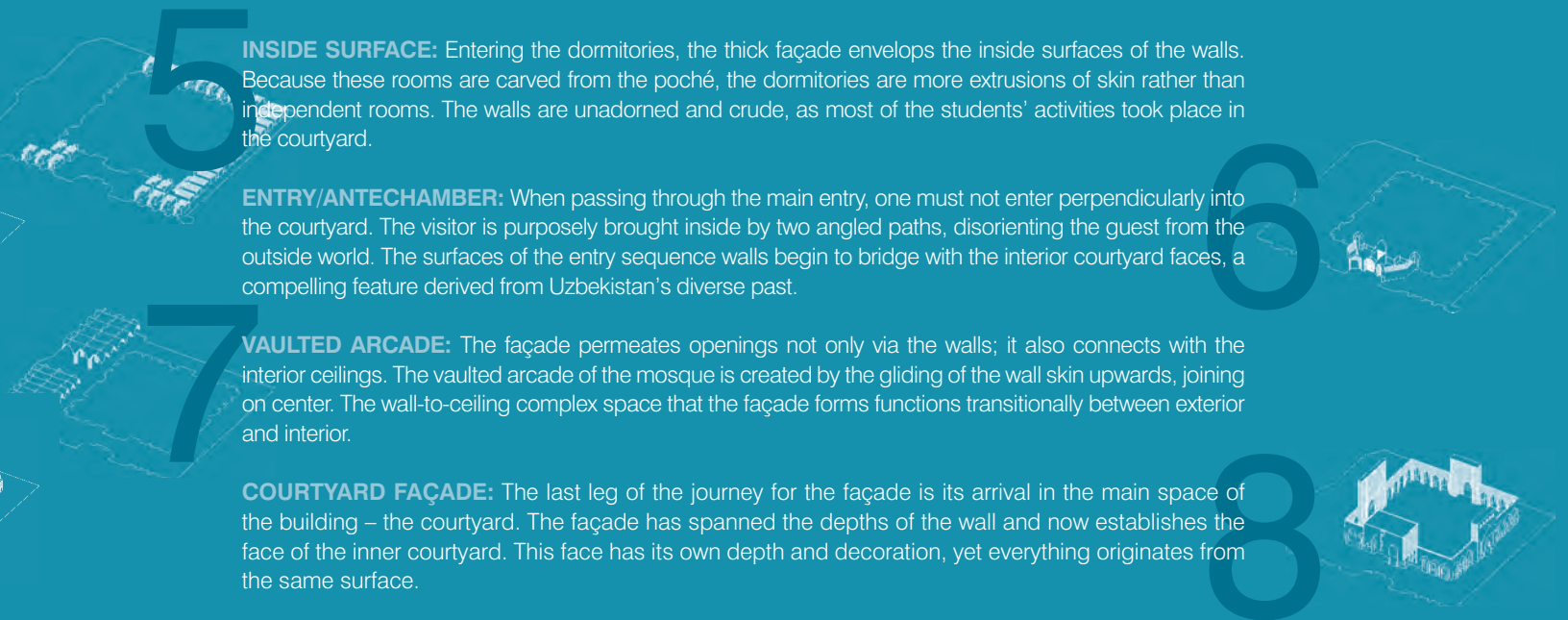
7

VAULTED ARCADE: The façade permeates openings not only via the walls; it also connects with the interior ceilings. The vaulted arcade of the mosque is created by the gliding of the wall skin upwards, joining on center. The wall-to-ceiling complex space that the façade forms functions transitionally between exterior and interior.

COURTYARD FAÇADE: The last leg of the journey for the façade is its arrival in the main space of the building – the courtyard. The façade has spanned the depths of the wall and now establishes the face of the inner courtyard. This face has its own depth and decoration, yet everything originates from the same surface.

6

8



NOTES

1. Manu Sobti, "A Palimpsest of Cultural Synthesis and Urban Change: Bukhara after the Islamic Invasions." *Built Environment*, November 3, 2002, 220.
2. Stefano Bianca, *Historic Cities Support Programme: Planning for the Historic City of Samarkand*. (Rome: Arti Grafiche Fratelli Palombi, 1997), 19.
3. See *supra* note 1, p. 217.
4. Richard N. Frye, *Bukhara: The Medieval Achievement*. (Costa Mesa, CA: Mazda Publishers, 1997), 9.
5. *Ibid.*, p. 10.

SCREEN

The façade has the ability to wrap and penetrate openings. However, an unexpected break from the continuous skin occurs when an aperture is filled with a screen. Typical screens made of wood or stone contrast the solid nature of the materials and the transparent aesthetic of the screen. This transparency, occurring in an otherwise solid enclosure, allows limited vision within the space, forcing the eye to fill in what the screen blocks out. This intricacy presents qualities so obscure as to arouse speculation or curiosity from those experiencing this exception to the thickness and weight of façade materials.

The screens on the building enclosure are dappled with shade and shadow. The intricate shadows produced by the large screen of the Bibi Khanum Mosque are impossible to replicate, rendered more complex by aeonian motion as the sun changes position in the sky. Not only does this indeterminacy affect the perceived space within the enclosure, the shade upon the individual pieces of the screen gives depth to the façade as well.

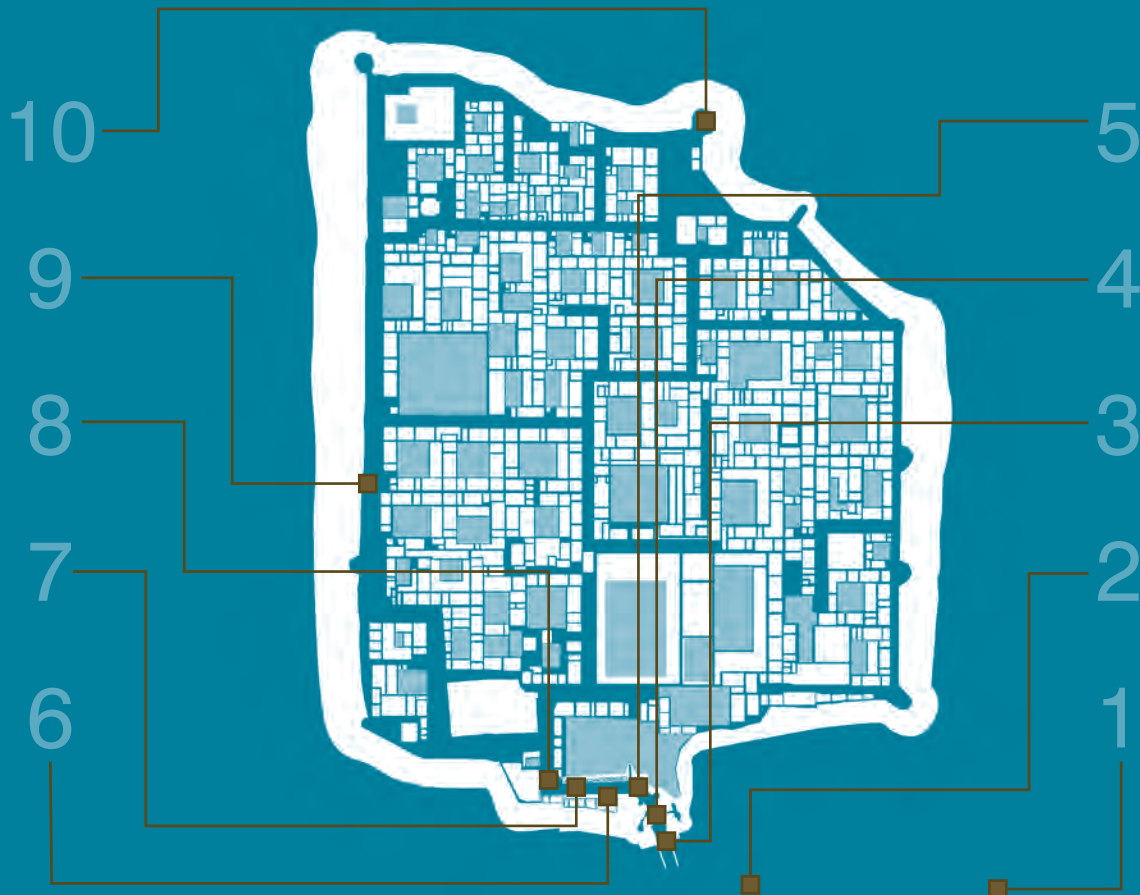
The Saminid Mausoleum in Bukhara is a tenth-century Central Asian example of the screen. The elaborate brick patterning acts as a semi-transparent enclosure for the entire building. This mystifying relationship between the solid brick building blocks and the voids manifested by the lack of block demonstrate the Central Asian appreciation of complexity of façade. The interplay of brickwork, void, shade, and shadow generates a dazzling notion of lightness, as if the entire building were a gracefully woven basket.

BUKHARA CITADEL

One of the most befuddling façade experiences in the region is the citadel in Bukhara. One enters by ramp into what one thinks should be the citadel, unaware that the main level is raised high above ground level. However, the ramp continues along the *inside* of the thick wall. The path passes by ancient prison cells on the left then continues up to the top level. In this case, the façade is even more than a horizontal transition zone – it moves people *vertically*. This perplexing disconnect has a profound impact on the user; one becomes lost in the experience.







1 Due west from Bukhara's urban core, the massive walls of the citadel (or Ark) are colossal. One can begin to sense the scale of the walls, which are approximately 60 feet in height and were used for protection against the many would-be conquerors.

6 The twelve niches alongside the entry passage house damp dungeons where prisoners wasted away. This use of *poché* is unique – it is one of the only programmed spaces within the expansive façade.

2 The great fortress gates of the Ark are approached by a mild sloping ramp, beginning the journey through the thick walls. The portal is abutted on both sides by two-story towers, creating a monumental point of entry that signifies the importance of the buildings inside.

7 Approaching the main level, one's eyes are forced to readjust to the relentless desert sun. The climb within the wall is forced by copious building and destruction over thousands of years that formed a 60-foot high artificial hill.

3 Passing through the first threshold into the vaulted arcade slowly brings the space back down to a human scale. Yet viewing the immense space within, one begins to fathom the great depth of the Ark's walls.

8 Turning the corner out of the passageway, one must reorient, as the journey through the façade is quite deceiving. Passing through the threshold, the sky opens above and the ascension is complete: one has arrived.

4 In the antechamber, women now sit behind a wooden screen selling admission tickets to the Ark. The citadel's significance to Uzbeks is further demonstrated by the high price of admission.

9 Archaeological excavations have determined the citadel dates from the late fifth or early sixth century C.E.⁴ The gentle crumbling of the citadel's façade expresses its age.

5 Once through the large doors, into the high-ceilinged antechamber, and forward through the dim passageway, one follows the ascending route towards daylight and the main level of the citadel, pondering the complex passage.

10 The ancient walls were maintained annually until the late ninth century and today have been reconstructed.⁵ New construction accentuates the thickness of the wall.



FACES & FAÇADES

The ex-Soviet “Stans” have been the center of a broad trading network for thousands of years. Because they have been ruled by many different peoples and have had ceaseless interaction with Asia and Europe, they are a candid cross-section of the information, people, and architecture of Central Asia. This can be seen not only in the architecture but also in the faces of the inhabitants. The Uzbeks proudly display their years, wrinkle by wrinkle and gold tooth by gold tooth. Like the depth and richness of the architectural façades of the region, the wrinkles from years of desert sun beget character. The influences of Asia, Russia, and the Middle East are all apparent in the streets and markets. Each face displays the unique makeup of the region's ancestry. Like the colorful patterned fabrics of traditional dress, diversity shines in the vivacious atmosphere of the market.

The space within which people live strongly impacts the way in which they thrive. In a place of such rich architectural history, it is impossible not to discuss the vernacular, monuments, urban fabric, and preservation of the area. The most pleasing of all architectural aspects is the effortless complexity of the layers of façade, as if the effects of the fundamental methods of construction naturally create an unparalleled thickness and richness. One wonders if this experience was based merely on the function of the materials at hand or if the design aesthetic was calculated. The compound behavior of the passage of façade from outside to inside points to the latter: the façade was intentionally designed to flow and blur this distinction as well as that of public and private.

The wall of course seems ordinary to the Uzbeks. It demonstrates the way buildings have been (and most likely will be) made for many years. But it is the façade's utilitarian effectiveness in creating depth and space that informs their living habits and conceptions of the built environment. The façade acts as a space-maker on the periphery of buildings, within the depth of the façade itself, and in the core of buildings. The scale, shade, and feeling of enclosure that the façade creates in these spaces inform the way in which Uzbeks inhabit them. Thus façades of Uzbekistan demonstrate the depth and richness of space as well as culture, shaped by millennia of migration, exchanges of knowledge, and a ceaseless conquest of the area. **C**



The Aegean islands are known for their great and dramatic beauty. Significantly, this beauty is the result of the interaction of natural and human agents, both in its creation and in its perception and representation: the white chapel on top of a hill, the traditional village overlooking the sunset, the golden wheat-fields overlooking the sea. These elements were not constructed with any attempts or notion of the picturesque; however, they are the result of self-organizing systems of structures and processes developed over millennia.

– Megan Jett¹

HOW TO GROW A FAVELA: THE GENESIS OF A CONTEMPORARY VERNACULAR DEVELOPMENT IN RIO DE JANEIRO



MAX FRIEDMAN

Max Friedman is a third-year architecture student at the University of Minnesota. He has also studied architecture at the University of Wisconsin Milwaukee and the Southern California Institute of Architecture. He's interested in the intersection of the built environment and its cultural and environmental contexts. In his spare time Max enjoys standup comedy and rap music. This project was supported by the University of Minnesota Undergraduate Research Opportunities Program.

This quote outlines both a fundamental struggle that all architects face and their fascination with the vernacular. Compared to the development of the Aegean Islands in Greece, the Mongolian Ger, the Inuit Igloo, and countless other examples of vernacular design, contemporary equivalents have no time to gestate. An architect attempts to match values and ideals developed during education and practice with the specifics of a commission's program and its cultural and environmental context. Thus vernacular design is not the result of a single act; rather it grows from functional requirements over a long period of time. Vernacular architecture and city design are not singular commissions, but the culmination of generation upon generation of people responding to the obstacles they face in their environment and the needs that arise as their cultures continue to develop. The result is devoid of the fashionable armchair theory and references to French philosophers from the 1960s that underlie the designs of contemporary architecture's elite.

Today architecture developed without architects has a much different genesis and significance than the examples mentioned above. Where the vernacular gradually responds over generations to its environmental and cultural needs, the contemporary vernacular responds to the comparatively sudden, often adverse, and often bizarre realities of a globalized world. Contemporary vernacular developments in Rio de Janeiro known as *favelas* (the Portuguese word for slums) offer a case study. The favela complexes have a unique form – an enormous mass of similarly shaped houses that appear to cascade irregularly down a hill. The gradual development of the contemporary favela is complex, but it can be deconstructed and reverse-architected as if it were designed as opposed to generated in order to understand its implications.

Historical Context

Favelas are a product of Brazil's colonial past. Portugal profited from their colonization of Brazil through the exportation of crops grown on plantations by slave laborers, many of whom were imported from Africa.¹ In 1823 Brazil gained its independence from Portugal, and the slaves were emancipated. The ownership of the plantations fell into the hands of the newly emerging merchant class in alliance with the political and economic oligarchies of the times. As agriculture's profitability increased the new plantation owners expanded their operations and housed more people – ex-slaves turned second-class citizens – on the premises and offered little compensation while working them harder than ever.²

Following World War II, in an effort to keep pace with other industrializing economies and establish itself as a major world power, Brazil shifted its economic interests from agriculture to industries like steel and manufacturing. Brazil's agriculture industry, without the government stimulation to which it had become accustomed, was forced to modernize to remain competitive in the global economy. Mechanization depreciated the need for labor: suddenly the agricultural jobs that were once so prevalent and stable grew scarce. This provided one of the first push factors that caused the rural poor to migrate to the urban centers of Brazil in search of emerging industrial jobs.³

During the latter half of the twentieth century large Brazilian cities shifted out of their roles as centers of industry as a response to the nation's move towards the decentralization of industrial production. This decimated the urban industrial job market.⁴ Those who had moved to urban areas, notably Rio de Janeiro, searched for jobs in vain. Agricultural technology continued to advance, and fewer jobs were available at lower wages. These events marked the approximate beginning of one of the most



radical population migrations in world history – in just two generations Brazil's poorest citizens switched from primarily rural to primarily urban. Favelas rose out of this shift. As a consequence of Brazil's colonial past, those who lived in poverty were pushed from their rural lives into an urban situation that would not accommodate them and would soon come to despise them.⁵

Favelas are Blight?

Aesthetically, the first favelas in Rio de Janeiro were not unlike they are today: highly dense horizontal clusters. They are built from easily available materials such as garbage, salvaged building materials from demolished buildings, or corrugated metal.⁶ The most immediate distinction between the favelas of Rio de Janeiro and the slums in most other parts of the world is the dramatic topography on which they are built. Rio is unique in that it is the second most populous city in Brazil yet it is located in a mountainous area that cannot accommodate the concentrations of high-rise hotels, apartment buildings, and offices that have become the symbols of global metropolises. Limited flat land was quickly developed, and is continually redeveloped for these uses. As such when the rural migrants came to the city they were pushed to the marginal mountainous areas, into the garbage dumps from which they would gather building materials.⁷

This mountainous terrain is not fit for vertical development. The land often endures torrential rains and the soil cannot support the incredible foundations high-rises require. The favelas of Rio de Janeiro naturally address this through their horizontality. While not immediately apparent due to the aggregation of the individual houses, each unit is built either on stilts or on top of a preexisting unit. Rain cascades down the mountains around the stilts while the favelas stay, relatively speaking, intact. In order to accommodate an incredible population density without building upwards (the highest "favela towers" are four

stories, and these are exceedingly rare)⁸ the dwellings are incredibly small and tightly packed.

In addition to this natural response to high density, low cost, and mountainous urban form, the favelas are also characterized by their irregularity in comparison to formal housing developments. Favela complexes are built incrementally, with each individual unit's location chosen according to the immediate needs of the future occupants. The result is a chaotic sprawl that appears to cascade down the mountains. This form sharply contrasts the formality of the wealthy areas directly adjacent to the favelas. These sharp distinctions in both urban form and social class in Rio de Janeiro have precipitated new terms: the *morro* (informal city) and the *asfalto* (formal city).⁹

The immediate response to the rapid and "illegal" growth of favelas was to view them as blight. The militarized government (1964-1985) considered eradication the best method to improve the quality of life for the whole of Rio de Janeiro. A particularly well-documented example of this policy is in the destruction of the favela complex Catacumba. Catacumba was a prosperous favela located a short distance from Copacabana. The mountain side on which Catacumba was located was particularly steep and provided incredible views of the ocean and the surrounding city that could never have been accomplished via traditional architectural development.¹⁰ The explosion of Catacumba occurred in two waves, the first following World War II as migrants searched for work and the second in the 1950s as people fled rural droughts. During these periods jobs in and around Catacumba were plentiful. Prosperity continued through the 1960s, and residents near the favela's base began retrofitting their makeshift buildings materials with masonry and concrete.¹¹ This in turn allowed for vertical growth, and Catacumba came to embody a semi-realistic self-organizing alternative to the traditional notion of urban growth.

NOTES

1. Megan Jett, "Landscapes of Cohabitation / doxiadis+." *Archdaily*, June 11, 2011, accessed September 19, 2011, <http://www.archdaily.com/142310/landscapes-of-cohabitation-doxiadis/>.
2. Deborah Bryceson, *Disappearing Peasantries? Rural Labour in Africa, Asia, and Latin America*. (London: ITDG Publishing, 2000), 123.
3. *Ibid.*, 125
4. *Ibid.*, 126
5. Cristina Meneguello, *Urban Voids and Deindustrialization: Industrial Heritage in Large Brazilian Cities*. (Campinas, Brazil: UNICAMP, 2010), 3.
6. See *supra* note 2, 126.
7. John May, *Buildings without Architects*. (Rizzoli International Publications, Inc., 2010).
8. *Ibid.*
9. *Ibid.*
10. Jannice Perlman, *Favela : four decades of living on the edge in Rio de Janeiro*. (New York: Oxford University Press, 2010), 29.
11. *Ibid.*, 66
12. See *supra* note 7.



13. Mike Davis, *Planet of Slums*. (New York: Verso, 2006), 108.

14. See *supra* note 10, 29.

15. See *supra* note 10, 323.

16. See *supra* note 13, 17.

17. See *supra* note 10, 47.

18. Unknown, "Orgulho da Favela – Pride of the Favela." *Life in Rocinha*, November 7, 2010, accessed September 19, 2011, <http://lifeinrocinha.blogspot.com/2010/11/orgulho-da-favela-pride-of-favela.html>.

19. Brett Roeth, "Can the World Cup and Olympics Promote Sustainable Urban Development?" *Energy and Climate Partnership of the Americas Urban Planning Initiative*, May 20, 2011, accessed September 19, 2011, <http://ecpaplanning.org/feature-can-the-world-cup-and-olympics-promote-sustainable-urban-development/>

Image Credits: Jeff Belmonte, CC 2.0: http://commons.wikimedia.org/wiki/File:Vidigal_Favela.jpg

Brian Snelson, CC 2.0: http://commons.wikimedia.org/wiki/File:Favela_Dona_Marta.jpg

This quickly came to an end: between 1969 and 1970 the entire favela complex was systematically destroyed. In 1964 the Brazilian Government militarized following a coup d'etat of the democratically elected president Joao Goulart. The new government regime made its goal in 1970 to demolish all favelas within ten years. During this time eighty favelas were razed and 140,000 people were forcibly relocated.¹² The government did not stop at simply eliminating the favela; it destroyed the strong community ties that had held it together. Catacumba was self-governed, like many favelas, by a residents' association. When the government relocated the residents of Catacumba to social housing units on the periphery of Rio de Janeiro they took efforts to separate important members of the residents' association in order to prevent any organized reactions to the forced relocation.¹³

These mass demolitions were major catalysts for the shaping of the contemporary favelas. With the evolution of their distinctive form came a very distinctive social structure. As communities that exist essentially separate from the the governance of the state, self-governance was crucial to maintain order. The effects of destroying not only the physical makeup of the favelas but also the societal constructs were disastrous and still reverberate today. Perhaps the worst consequence of these actions was the blow to the self-esteem of favela residents. The Portuguese word *gente* translates as "of a person", but those who live in favelas are not considered *gente* – they are literally viewed as less than people. In Rio, a place of incredible ethnic diversity, the greatest source of discrimination is not race, but place.¹⁴

The Result – Favelas as we know them now

Yet the removal efforts essentially failed, and the military government was overturned in 1985. Favela growth continued to accelerate, far outpacing the growth of adjacent formal districts.¹⁵ However, while Rio de Janeiro once had a wealth of industrial jobs ideal for those living in the favelas, the city's economy has become primarily information-based like other major contemporary cities. Once Rio's favelas were prosperous and organized by community-led residents' associations. Now favelas' social hierarchies have been shattered and replaced by the rule of powerful drug cartels that terrorize the communities.

The striking contrast between the formal and informal sectors of Rio de Janeiro is reflected in its harsh social stratification. Rio de Janeiro has one of the most severe

rates of inequality in the world.¹⁶ This is directly related to the city's form, but it is both unclear and insignificant whether the form of the favelas led to this inequality or the inequality led to their form. Regardless the layout of the favelas, in tandem with the shattered social dynamics of their communities, have supported the continued suppression of residents' quality of life.

This highlights a sad truth of the favelas – those living in them have access to education, food, and while not the highest of standards, water and sanitation infrastructure. Yet because of harsh discrimination, residents are still underrepresented and seen as lesser. They are born into an urban lifestyle that grows increasingly unsafe and consequently their own perceived personhood continues to diminish. Despite this there is a pride that permeates the favelas – *Orgulho da Favela* in Portuguese. Favela residents are grateful to their parents and grandparents who moved to the city in order to improve their lives. They maintain this desire to improve, but the support and acceptance from the government is still developing.¹⁷

Romance

Favelas, despite the difficulties they represent, have become oddly trendy. Recent movies such as *Cidade de Deus* (City of God), *The Incredible Hulk*, and *Fast Five* have used favelas as their settings. Favelas can be seen rendered in video games like *Call of Duty: Modern Warfare 2*. And recently artist JR won the prestigious TED prize for his major art installations, one of which uses an entire favela as its canvas. The term "favela chic" has even entered the lexicon of luxury. Trendy clubs and restaurants have opened in Paris, Tokyo, London, and New York City, where one can enjoy painstakingly replicated favela spaces and expensive drinks. Rocinha, one of Rio's largest favelas, has even opened itself to tourism.

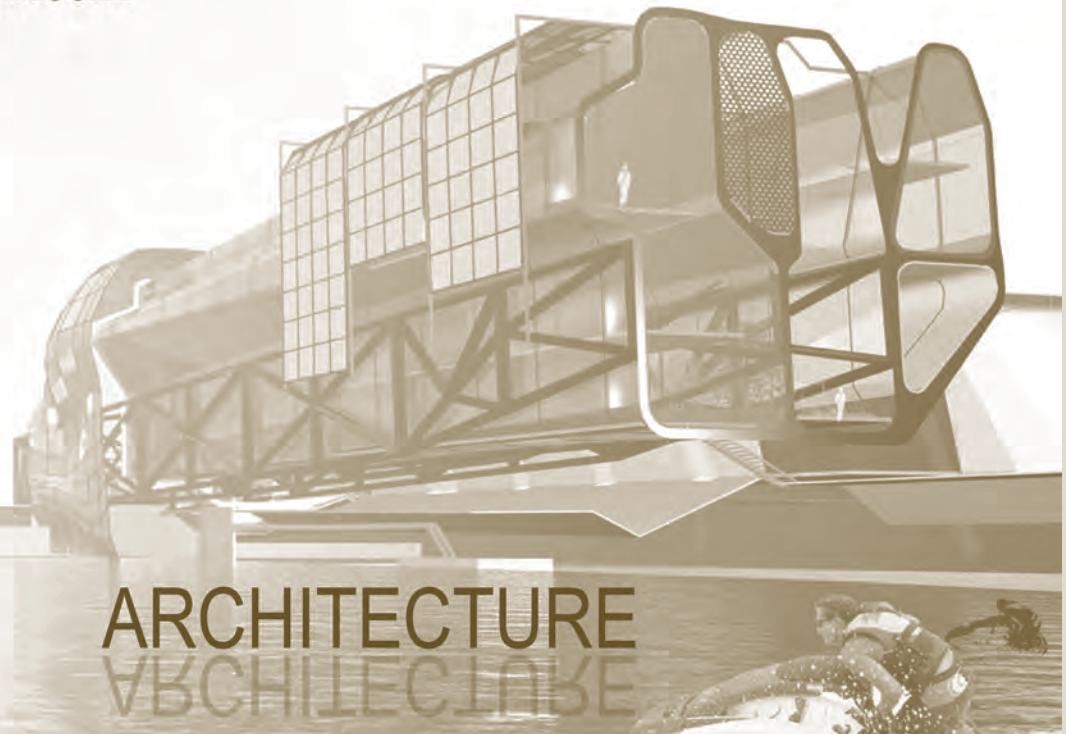
These examples call attention to the growing fascination with favelas, and slums in general. It is difficult to objectively qualify the appreciation of an aesthetic, but the cause of the romanticization of the favelas may relate to Megan Jett's thinking. The favelas are picturesque in a very contemporary way. They are unprecedentedly irregular and, despite their striking unfamiliarity and contrast to their context, never seem at odds with their surroundings. Or maybe it is because they do contrast the formal city they are pressed so sharply against that they seem natural. Regardless favelas lack the sense of pretense that pervades contemporary high design, and this likely resonates with people.

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The romanticization of the favelas presents a unique quandary for the people of Rio de Janeiro. On the one hand the recent attention paid to favelas raises awareness of the problems faced by their residents and has likely had some influence in spurring the government's attempts at favela intervention. Conversely the appreciation of the favela aesthetic is inherently exploitative. The grittiness and danger of the favelas is perversely appealing to those bored of the monotony of their comparatively sterile and safe cities. The romance is focused on the aesthetic and is, generally speaking, ignorant of the culture and more importantly the individuals who live in the favelas, who do not likely feel the same love for the authentic, picturesque quality of their environment.

Conclusion

Favelas offer a glimpse at the dynamic relationship between society and architecture. Brazilian societies' actions generated the favela form, and their consequent actions altered the social structure of the favelas that had developed in tandem with that form. Yet the form remained and the altered social structure still had to interact with it, causing new results, most notably the prevalence of the centralized drug gangs. This demonstrates that architecture,

while naturally static, behaves differently based on societal interactions. The favela form was once capable of self-sustaining governance and positive social hierarchy, as was seen in Catacumba. But that same form can also harbor the dominance of drug gangs that have powerful impacts on the favela communities. In the coming years Rio de Janeiro will host the 2014 FIFA World Cup and the 2016 Summer Olympics. The government is once again razing favelas and relocating their residents in order to make room for "parking structures, tree-lined plazas, and other *cultural* facilities" (emphasis added).¹⁸ Clearly the Brazilian government has not yet come to fully appreciate one of its most significant, eccentric, and impressive preexisting cultural facilities. Once again the favela residents will be forced to react to their government's neglect of their human rights.

At its best a building is designed as a reflection of the culture and as a relation to its environment. Whether or not a favela qualifies as good architecture is an open debate. What is certain is that favelas are a pure reflection of the needs of the people who built them and represent a direct interaction between architecture and the physical circumstances of its environment. **C**

BEYOND

AN ATTEMPT TO BE TOUCHED BY TIME

How can we begin to offer our mind, senses, and memory something more than what we perceive from an image that may or may not cause curiosity in passing? As students we sit in our history, theory, and studio classes and attempt to experience the ancient art of architecture through the passing images on a screen and the thoughtful words of the lecturer. Through the stillness of the photograph or precision of the drawing, these provocative spaces begin to tease our senses. But our minds are not always able to grasp the full poetry and beauty of space without living the architecture's purpose. Sure, there is the occasional and very intuitive precedent study, but with limited time, it is difficult to learn from many of the successes and failures from our architectural masters.



BRENT CASTRO

Brent Castro attends the University of Tennessee, Knoxville, in his final year of the BArch Program. He serves on the 2011 – 2012 AIAS Board of Directors dedicating his time to service and education. This article was influenced by his time spent studying for a semester in Krakow, Poland, where he had the chance to learn and live the culture of an amazing city while traveling the less-taken route through the European countryside.

The first time I was introduced to the images of Boullée's Cenotaph, the mere thought of its all-encompassing power and grandeur and scale overwhelmed me. In my mind I imagined standing at the base point of the hollow sphere. In the midst of the darkness and stars my senses run rapid in a space that desires such attention. The true beauty of Boullée's Cenotaph is realized through the viewing of this study of light and scale that was drawn with the grace of the hand – our thoughts can take us on truly inspiring adventures.

I have discovered that one's curiosity can never truly be fulfilled by these quick glances and one's senses and memory will ultimately beg for more. In the academy we start to long for more than what our eyes can see from our own home's window. As designers we are curious minds, always looking for new ways to challenge the knowledge of our norm towards something more poetic and pure. Through our innate inquisitiveness our minds continue to grow.

However when we find ourselves in an unknown scene, we are forced to gain knowledge at a faster pace. A semester sketching in the streets of Verona or the palaces of Rome challenges everything we you know and love. A train ride through the Spanish and French countryside imprints on our memory spaces and landscapes that

BORDERS:

"Here I am sitting in the Gardens of the Villa Rotunda and it is as if time stands still. I am alone with my thoughts and living a once in a lifetime architectural experience. My senses run wild from the perfection infused by landscape and building. They penetrate the deepest of my psyche and spirit. This is what beauty truly is."

– Personal writing from The Villa Rotunda, Vicenza

"... all I can think about is what it would have been like to experience this space. A coliseum that was once full of passion, greed, and death that begged all your sensations to combine into one and become an unforgettable experience. The harshness of the space now sits in solitude and dormancy of the past. What happened within these walls 2000 years ago? History happened and it was truly God's intervention."

– Personal writing from the Roman Colosseum

*"The World is a book,
and those who do not travel
read only a page."*

– St. Augustin



bleed over 2500 years of human history. As students of architecture we have opportunities to study these beautiful worlds in hopes that they will influence us the rest of our lives, but seeing them is truly inspirational.

We are given vast opportunities to study insightful architecture and enticing culture abroad. Indeed there are treasures and iconic structures to be seen within our own shores, but there will always be a sense of mystery surrounding countries afar. Films, history texts, and thousands of photographs of fields and landmarks untouchable on our own soil hint at cultures that have centuries of life flowing through them. But traveling to these places allows us to learn directly from the great artists and designers of the past.

Our design education teaches us to see, feel, and hear differently from others. Like they would in Boullée's Cenotaph, our design senses are known to thrive in European and Asian cityscapes – architectural and cultural experiences unmatched within our borders. The European, Asian, and African continents promote themselves as the birthplaces of Homo Sapien civilization. Ancient masters armed with evolving technologies guided our predecessors to build great monuments, from the mystical Great Pyramids to the mathematical Florence Cathedral. These buildings signify great inquires about life and beyond.

Italy is surely one of the most desired locations for members of our profession. In Verona, the Castelvecchio, revitalized by Carlo Scarpa, offered my soul a look into the far reaches of the past. At dusk the sunlight peered through the teeth of the castle walls. The warm rays of sun silenced external noise, reminding me of the innocence of my childhood, in a place twenty-eight times my age. By seeing, feeling, and sensing the Duomo, the expanse of St. Marks Square, the bells of Notre Dame, and the warmth of Zumthor's thermal baths, we can start to decipher thoughts about the history of time and our existence. We can conceive how time led to our

innovations; we can remember what changed in time to create a notion of what beauty truly is. We can fear and welcome the time that led to wars, religion, love and loss. We can be thankful for the time that allows people to continue to learn about themselves.

Time is our most powerful possession – without it we would be unable to learn. Our ancient and new worlds have had thousands of years to rethink and refine themselves. From five thousand years of recorded history we have books, art, sculpture, and architecture to guide our curiosities towards answers. The ability to walk past walls that have two thousand years of history flowing through them allows our minds to fully understand their purpose.

Through these passing years great minds have created beautiful and innovative designs. Still to this day, many of our cultural leaders progressively design without fear, creating intrigue sometimes not seen from the ordinary steps of our homes. However, ask any of these designers and one will find that the influences of their past made them who they are. But here we cannot truly experience living in a history that has built upon itself for centuries.

Our lives are defined by our experiences that lead to memories that in turn influence how we live our lives. At this point in your education, let the excitement of these unknown lands inspire you in a way that an image is not able. Let this time take you on an adventure that can help define your humanity and influence you as a designer.

If you are ready for change that goes on, deeper into your soul, engendering a permanent knowledge of time, then open your eyes to the experiences that are upon you. I could never have known an expedition through Europe would change my life to the degree that it did. Now is your chance to live outside your comfort zone to learn things that your home cannot teach you. Look at this life that we have been given with all the fantastic unknown; it is too short to only sit at your studio desk and not experience the ride. **C**

"Ghost Palms"

TERRAZZO becomes a functional work of art at the Miami International Airport,



"Terrazzo's potential as an artistic medium allows my imagination to soar. Collaborating with the craftspeople who produce it allows my ideas to become reality."

Norie Sato, Designer
Seattle, WA © 2007

Located at Miami International Airport
South Terminal
International Baggage Claim
Commissioned by Miami-Dade Art in
Public Places
Photo: Robin Hill
Photo of the artist: Elizabeth Trunkey



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AIAS/CRIT WRITING COMPETITION

“BUILDING A NATION: ARCHITECTS AS CIVIC LEADERS”

Crit invites all AIAS members to submit “essays” that put forth ideas concerning the ways architects are, have been, should be, or could become civic leaders. Civic leadership assumes many forms – from community-based volunteerism to social advocacy to institutional support to public office – and is open to interpretation. What roles do architects have to play as citizens? How can architects support our communities through the profession? What qualities define a civic leader? What qualities make architects capable civic leaders?

Entries must address this theme in some way, but there are no specific requirements for content or structure except those outlined below. An essay, broadly defined, can be framed as an op-ed, feature article, or even a short work of fiction: entrants are encouraged to consider the theme and their responses openly and creatively. Entries must be original, unpublished work.

Eligibility and Entry Guidelines

- Must be an AIAS member to enter; no entry fee. All current and former AIAS national board members and *Crit* Editorial Board members are ineligible.
- Submissions must be 500 – 1,500 words; no exceptions.
- Essays CANNOT be accompanied by any images or graphic elements. Authors must rely on text to convey their ideas.
- Entries must be in a text-editable format (e.g. .rtf, .doc, .docx) with entrant’s first and last name, email address, and AIAS membership number on each page.

Email entry as an attachment to crit@aias.org with the subject “Writing Competition Entry”. Questions should also be directed to this address.

Entry deadline: February 1, 2012, 11:59 PM EST

The *Crit* Editorial Board will select the winning entries from the submissions. The awards will be:

1ST: Complimentary registration to FORUM 2012 in Savannah, Georgia

2ND: \$100 gift certificate to Amazon.com

3RD: Free AIAS membership dues for 2012 – 2013

Honorable mention: AIAS sketchbook

The winning entries will be published in *Crit* 73 (Spring 2012).



DIMENSIONS OF DESIGN

CLARK MANUS

Clark Manus, FAIA, is the 87th President of the American Institute of Architects. His firm, Heller Manus, based in San Francisco and Shanghai, has received numerous awards for their civic and urban infill projects.

**Interview by
Brett W.R. Peanasky,
Crit Editor-in-Chief**

This interview took place in August 2011. For a report on the outcomes of the UIA Congress, see pg. 42.

Photo Credit: Stephany Deddo

I've often heard you speak about the value of your engagement with the Embarcadero freeway redevelopment. How did this experience direct the course of your career?

At the time I was a member of the AIA San Francisco urban design committee, and I had chaired five design assistance teams. I was interested in this action agenda, but more remarkable was my desire to be part of a city building effort after the 1989 earthquake. I understood the importance of dialogue with policymakers and a focus of our effort was leveraging design thinking to generate alternatives for the city. That freeway was designed in the 1950s as a part of an engineering view and cut off the city from the waterfront. Our analysis helped encourage its replacement and ultimately the rebirth of two adjacent neighborhoods. We looked at the freeway's long-term economic impact. In the past two decades, numerous projects have reinvigorated that waterfront.

For me the true learning experience was that – and I've said this more than my share of times – architects need to get beyond our own profession; we need to talk to the public and policymakers. I served as a voice in a large community effort organized around a vision. Architects are in a remarkable position to do that. We were not talking about something that was theoretical; this was something that had real specific value to the city.

You're particularly active in urban and civic issues in San Francisco – you currently serve as the Treasurer of San Francisco Friends of City Planning and served as the Chair of San Francisco Transbay Citizens Advisory Committee. As an architect, what perspectives do you bring to these groups?

The Transbay Citizens Advisory Committee grew out of the Embarcadero redevelopment, and I chaired that committee for almost two decades. I believed in that process, and as an AIA Vice President, I helped to create the Citizen Architect Program to recognize and support architects who are helping their communities understand the value of design in the creation of

livable communities. Through my role at Transbay, I also recognized the importance of a holistic process. Our efforts led to three things: a new high-density residential neighborhood, Rincon Hill; the Transbay terminal district, which increased heights and created a mixed-use neighborhood; and the ability to create a high speed rail or multi-transportation node in the center of the city. I have been a board member for San Francisco Friends of City Planning since it formed, and the idea is to provide the city planning department tools the government cannot. In the private sector, we are spoiled because we have more resources that support creativity. The intent of this group is to support the staff on grant programs and to foster innovation.

One of your firm's most celebrated projects is the reconstruction and renovation of San Francisco City Hall after the 1989 Loma Prieta Earthquake. What did this project mean for you?

As the principal architect responsible, with my seal on the drawings, the project had a double meaning for me. For one, it really spoke to the ability of a city to recover from a disaster. Mayor Art Agnos, who acquired the bulk of the funds for the renovation, and Mayor Willie Brown, who served under the renovation, were both great patrons. The project offered me a once-in-a-lifetime opportunity to breathe new life into a national landmark, to give the people of the city great pride in it as the city's heart. And I see that every time I go there.

Secondly, there is a message associated with recovering buildings that serve as part of the soul of the city. I've often said that when disasters occur in your own city – whether it's a tornado, an earthquake, a hurricane, or a mudslide – the ability to embrace projects that are landmarks to the city's soul during the recovery is an important confidence booster for the citizens.

What value do you think historic buildings have to the citizens of a city?

I'm not an advocate of freeze-drying a city; I think both historic buildings and new buildings hold great value. I do think buildings that have meaning are part of the

Your firm has a growing urban and regionally driven you to work at this scale?

human culture, and for San Francisco, buildings like City Hall or the Ferry Building – which was freed from its three-decade constraint of the elevated Embarcadero – are buildings that people tend to relate to in terms of the long-term history of a city. Cities need to always innovate, and historicist design doesn't necessarily connect a city to its history. But buildings with a traditional character are a testament to timelessness; people ultimately want to connect to them as part of their culture.

Much of your work has sustainability at its core, rather than treating it as an add-on or brand. How can other architects ingrain sustainability into their work?

You have to have a passion for sustainability and why it's important. Our practice has always been born of urban infill opportunities, and I'm a big believer in urban and regional trends. Sustainability speaks to the ability for cities and regions to accommodate generations of human habitation and multiple uses. A building doesn't necessarily have to be LEED-certified to be sustainable. Sustainability is a design principle, and we aspire to that, whether it's a master plan, a building, or an attitude. Occasionally it's nice to see a picture of a LEED-Platinum building in a cornfield but I think it's much more important in terms of society's goals to consider a regional perspective, and this is embedded in our firm's work.

Your firm has a substantial urban and regional design portfolio. What has driven you to work at this scale?

We have always worked at that scale. A lot of our projects in San Francisco have been large-scale urban infill, with an attitude towards city-making and city-building. In Guangzhou, China – a city of over 15 million – we began by serving as an advisor to the mayor on the urban core. They were very excited about the way we approached building types and infill in San Francisco, and we developed urban designs and large-scale plans for half a dozen cities throughout China. Our passion and intent have always been there, and the firm has always focused on the importance of being inspired by the community spirit. Urban district planning is just an evolution of that, and it's been very exciting.

At AIAS Forum in Toronto, you noted that two-thirds of your firm's current work is in China, and you told the attendees that their practice

“will not be limited to the fifty states.” How have you approached work abroad?

The beginnings, more than five years ago, resulted in an infill high-rise in Shanghai and an urban design in Guangzhou, and our work has blossomed to cities as far north as Mongolia. But I think the most important element of our work is that we have shown Chinese leaders that we can inject concepts of innovation and sustainability into their plans. And they've been very supportive. It's refreshing to know there is a regulatory body in another country that is in favor of this attitude. Our work has also involved partnerships with firms and individuals in China, and our firm has staff members who were born in China and educated in the U.S., so we understand the culture very well and we're respectful of it. These partnerships have allowed us to communicate the innovations we've developed.

In a *New York Times* article, you suggested that Chinese officials approach urban development more effectively than their counterparts in the U.S. But the *Times* cautioned that this approach “means that projects are built whether or not people in local neighborhoods want them” and that “modern development has already erased much of China's historic architectural fabric.” Do you have any cautions about working in China, and how do you ensure that your work is sensitive to the history of that place?

I don't think there is a dramatic difference between Western firms practicing in China and firms from outside the U.S. practicing here. Both require an understanding of how culture relates to building character. I'll go back to the original example I cited: in the 1950s, we began building freeways through our cities and just destroying their character. And now, we're beginning to say that those don't belong, and freeways are being demolished in some cities.

China, like other parts of the world, is on a learning curve to do the right thing. In pursuit of progress sometimes destruction happens but architects must work with our clients to educate them about the things that are of value. We've destroyed our own history in some parts of the U.S. as the Chinese have in their ways, and they are making some of the same mistakes we have, such as increased use of cars. But recently they have been able to recover from that attitude through the development of other transportation modes. My sense is that this is a sensitivity issue, and I think with historic buildings, whether they are retained, restored,

How do you encourage your clients to consider the long-term consequences of their design choices?

or adaptively reused, a creative, educational process needs to occur between architect and client.

How do you encourage your clients to consider the long-term consequences of their design choices?

I think it's a confidence factor. By use of examples and case studies we demonstrate value. This is not easy, particularly in an economic climate like ours, when people are looking for the lowest first cost because they think that's all they can afford. I often use the example of a client with whom I worked for a long time, a solid human being with conservative views on climate change. He and I started a conversation and he was talking about the fact that he didn't really appreciate Al Gore's views, and I stopped him and said, "I know you like to save money, and I know you believe in energy efficiency." He agreed on both accounts and from that point we both agreed to remove the rhetoric and get to the bottom of what people want. We often use words that are loaded and people think of them in ways they shouldn't. So it requires dialogue, looking at examples from a local, national, or global perspective that ultimately give people the confidence to understand why they should have a longer view.

You recently led an AIA "trade mission" to India. What did you accomplish there?

I know from our own practice, and from speaking with my colleagues, that many opportunities for architects are across the world as our own economy struggles. The AIA began a dialogue almost two years ago with the U.S. Department of Commerce in conjunction with the Grassroots Leadership and Legislative Conference. They wanted to talk about President Obama's programs that involved the export of services, and architects obviously were a great opportunity. This dialogue precipitated an exploratory visit to India, with the intent to talk to government officials and potential clients about American architects. We also hosted a networking session amongst AIA members who practice in India, encouraging them to start a chapter there, similar to the Middle East and other places. So recognizing that architecture is global, our intent was to explore the potential as part of the five-year international plan the AIA adopted last year.

What does the U.S. delegation hope to accomplish at the UIA Congress in September?

As a member of the UIA we have an international agenda. Our first objective is to continue our involvement and support. The second is to network with our peers in

other architectural associations. I've had the opportunity in the past two years to meet everyone from the president of the Royal Institute of British Architects to the president of the Indian Institute of Architects. We intend to identify issues that will result in more American architects practicing globally. The AIA is often its own worst critic, but I think we do some extraordinary things that we should be very proud of. We use resources to assist our members wherever they might be practicing to help them become more educated and more skilled.

I have pushed very hard to be much more engaged in the international dialogue on four fronts. One is on sustainability and community-building; a subject matter expert, a member of the AIA Committee on the Environment, is part of the delegation. The second is our role in disaster mitigation, which speaks to our efforts to create resilient communities. Disasters occur all over the world in a great diversity of form, and I want to make sure we discuss how we can assist each other. The AIA has been very effective on both of the last two fronts. We also co-chair one of the commissions on professional practice and work on education. Both of these efforts are part of a focus on emerging professionals' ability to have the right knowledge and access to licensure.

Specifically on resilience, in your column in the July issue of *Architect*, you stated, "design can mitigate the impact of [natural disasters] before they occur." How can architects work with residents of endangered areas?

Haiti, for example, demonstrated why building codes are important in the creation of resilient communities. We cannot design buildings to be disaster-resistant, but we can make them disaster-resilient. We can design buildings with better foundations and tie-downs to withstand hurricane-force winds. But for me the key is looking at how regions can be resilient. A good case in point is Japan, which actually fared well after the earthquake; the tsunami was a separate event that nobody could have prepared for. But the desire to build community capital and ensure that communities are bonded together after disaster is an important part of the rebuilding process.

Everybody is obviously concerned about what happens immediately after the event – first responders dealing with food or shelter and the like – but in the long run architects can be instrumental. Greensburg, Kansas, leveled by an F-5 tornado five years ago, is a model of an emerging sustainable community. AIA members played a lead role there, and the mayor of that city demonstrated that

ts to consider the sign choices?

through long-term planning communities can create a resilient plan that builds community capital. I don't think it's possible to prevent disasters. I think it's possible to mitigate them and be prepared in the recovery process to consider what communities ultimately can become.

You make some good points about taking a holistic view. In your February column for *Architect*, you asserted “the major issues of the 21st century—health, security, transportation, productivity, sustainability—are design matters,” which should translate into “a golden age for America’s architects.” So why aren’t we experiencing a “golden age”?

The first issue, our country's economic meltdown, is not our doing. If you look outside the continental U.S., in places like China, architects have flourished by demonstrating why they are important. But I've always thought that the essence of design thinking, in terms of the approach to problems, is a key part of that. The AIA has been front and center in identifying ways that we can get our economy back to work. The Stalled Projects Initiative and our involvement with the Clinton Global Initiative, for example, have demonstrated the value of collaborating with other organizations. Architects have a unique approach: we don't look at myopic solutions but solutions that last fifty, one hundred, two hundred years. Our country is relatively young in its maturation; other countries have become places that we all want to visit because of design thinking. So architects need to get outside of our own shells, be involved in our communities and the things we think are important. We need to be involved in policymaking, city-building; all these things are a key part of changing our recent course.

So do you think it's a matter of architects reasserting a position of political relevance?

Yes, I do. But political relevance may be the wrong phrase, because architects have a remarkable skill in walking that fine line between the black and white, and they see value in a lot of things. Something that really frustrates the American public is that our own government can't seem to effectively work together. Architects know how to work with communities, we know how to collaborate on teams, and we understand the importance of teamwork. These are the things that architects, in their everyday life, need to facilitate and encourage.

The two keynote speakers at the AIA Convention in May were not architects – Thomas Friedman is a journalist and Jeb Brugmann is a self-

described “urban strategist.” What value did you and the other convention organizers feel these individuals would bring?

The convention focused on urbanization and the importance of regions to a sustainable future. Friedman, being the big pen, the big voice, the provocateur, said exactly what I knew was embedded in his writings. Post-green, what does our country look at? Why are we now so intent on basically thinking that sustainability is an add-on? He is somebody with a very global view, whether it's related to architecture, sustainability, or world events, and he was able to turn the mirror on ourselves and help us see the value our profession has.

Jeb Brugmann's focus was really on entrepreneurial opportunities, and he said, 'You architects are doers. You know how to reach in, you know how to participate, you know how to make things happen, and you need to continue to do that.' I think this calls us back to our roots as entrepreneurs, our ability to spawn opportunities. Brugmann discussed the places in the world where people with far less resources exhibit entrepreneurialism and show the nature of innovation.

What is your outlook for the position of the architect in society in 2011?

This is a very difficult time, but the profession has faced the same difficulties in being confident about our role as stewards of the built environment. We must reassert design thinking as a part of our voice, and that means we need to have confidence in ourselves. Again, at a policy level, we need to get beyond our own professional shell. There are many great examples of that in the AIA design assistance programs and the Citizen Architect program. Architects and intern architects need to be out there. More importantly than anything else, emerging professionals need to be confident and not shirk from opportunities that enable them to make change.

We always have to hold onto that passion. Practice is practice, and jobs are always going to be a challenge for us because architecture tends to be cyclical. But I think the entrepreneurial opportunities are always there, and we just need to feel confident in the way we pursue them. It is incumbent upon this generation of emerging professionals to feel they can grasp those opportunities. When I was at FORUM in Toronto, students talked about a real ability to affect people's lives. They want to make people's lives better and whether it's through housing or workplace or civic buildings, they all have remarkable opportunities to be involved. **C**

REPORTS FROM TOKYO: THE 2011 UIA WORLD CONGRESS



NICK MANCUSI

Nick Mancusi is the 2011 – 2012 AIAS President (read his full bio on p. 8)



TYLER ASHWORTH

Tyler Ashworth, Assoc. AIA, LEED AP, a Las Vegas native, served as the 54th President and Chairman of the Board of the AIAS during the 2010-2011 academic year. He holds an M.Arch and a B.S.Arch with a business minor from the University of Idaho. Experienced in both teaching and practice, Tyler served as a graduate teaching assistant for early drafting and design studio courses. In Las Vegas he worked at SH Architecture, a firm focused on sustainable design of civic and educational facilities. He was involved in construction documentation for K-12 schools, led the completion of a schematic design package for an aviation facility, and completed programming and needs assessment work for a correctional facility. Tyler continues to serve the AIAS in the role of Past President and also holds a seat on the AIA National Board of Directors.

The U.S. design and construction industries are shrinking. **GET USED TO IT!**

Do not feel a sense of entitlement towards your next job; that \$200,000+ degree is not enough. Do you have 5+ years of experience? Are you a veteran Revit operator? Do you know other languages (preferably Chinese)? Are you ready to relocate every three years? Do you like working long hours?

While this may seem a grim interrogation, I pose these questions to encourage you to think about your career. We must optimistically seek to understand broader conditions and global trends and be ready to surmount challenges. **The architecture profession is where you belong. There is no other field as rewarding.**

Architectural education around the world

The UIA estimates there are 500,000 students of architecture globally¹. In 2010 NAAB reported there were approximately 45,000 students of architecture in the U.S.² The world is internationalizing; we are only one-tenth of our profession. *However*, any leader in our profession today will tell you that U.S. schools still hold the highest standards of any institutions. Schools abroad continue to seek NAAB accreditation or equivalency, and we still see a large number of foreign students entering the U.S. to study architecture. **Your degree is still worth it.**

China...The New Reality

At the September AIA Board meeting in Chicago, Executive Vice President and CEO Robert Ivy presented an environmental scan that contained some daunting facts. Construction in China now accounts for \$2.7 trillion of the approximately \$12.4 trillion global AEC market.³ With some soft rounding, this means that China now accounts for 25% of global construction. The silver lining? During a visit to a firm in Chicago, we found that only 20% of its business is domestic; the other 80% is split between the Middle East and China. This may sound less than desirable, but consider this: construction in China is providing jobs here. **U.S.-based architecture jobs still exist.**

Architect = International Architect

*"Architects are no longer confined to the borders of their own countries when providing services. Either working from their home base, associating with a foreign fellow architect or opening an office abroad, international practice has become a consequence of the global economy."*⁴

The old adage "Think globally, act locally" now seems to be more appropriate in reverse; fitting to how we will view future architecture jobs. "Think locally, act globally" – what does this mean? Perhaps that we need to be aware of local context and vernacular design but prepared to design around the world. Just as "sustainable architecture" is becoming inherent in "architecture," it seems the terms "international architect" and "architect" will become synonymous. But like language in translation, "architect" still means something different in each country. Architectural sociologist Dr. Garry Stevens from Australia puts it best: "architect is not a simple label easily transferred."⁵ The UIA has been considering this issue for decades, sensing the need for a standard world definition for "architect" and a number of other factors related to practice. These definitions can be found in the *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice* of 1999. With improved international practice standards come improved access to architecture work worldwide. **Start thinking beyond your hometown; international design is the new standard.**

Looking Forward

Considering our changing game we must ask ourselves, how can we stay ahead? How can the U.S. maintain quality in education, practice, and ultimately, constructed projects? Reflecting on the UIA Congress, where I talked with students and professionals from around the world, I believe there are a number of proactive steps that the U.S. profession – and students – can take to ensure success.

Three ways for the US architecture profession to regain relevancy

1. Restructure the path to licensure.⁶ While U.S. standards for registration are among the highest and most regarded, we must find ways to encourage more interns to achieve licensure. This is especially important

The world is yours, but only if you want it.

-Tyler Ashworth

at a time when unemployment in our profession is high and entry-level jobs are scarce. This process should integrate international design work while striving to maintain high standards.

2. Educate and mentor students for international practice. That “non-western traditions” course and a week learning about contract partnerships simply aren’t enough. Architecture schools need to be preparing students to design for multiple vernaculars – and not just in the aesthetic sense.

3. Encourage and teach entrepreneurship. The best way to find a job when one does not exist is to create one. We need to graduate with the ability to quickly navigate business markets, ready and able to take calculated risks that will allow us to grow.

Three steps you NEED to take to ensure career success

1. Engage yourself in an international experience. Study abroad. Be insistent about working on that project in China during your internship. Enter the international design competition your professor keeps talking about. Find a way to experience other cultures through design and document that experience. Give it weight in your portfolio. More importantly, make and maintain new contacts and friends in the process.

2. Learn and master Revit. This may seem out of place in an article about international practice, but if there is one language that is universal, it is the language of architecture. Consider Revit the written word of this universal language. As our profession is internationalizing, BIM technology is becoming standard.

3. Cast aside all modesty. Beef up that résumé. Don’t hesitate to mention any relevant accomplishment or skill. You need to be able to walk into an office, look the firm owner straight in the eye and convince him or her that not only are you the right person for the job, but you plan to replace him or her upon retirement. Leave no doubt that you are the best.

Three places to stay educated and informed

1. New York Times/Wall Street Journal/NPR/CNN. Take your pick, but choose a news outlet and stay informed both locally and globally. Read the business, art, and culture sections, where you might find information on the latest projects or larger trends, like corporations’ plans for new headquarters. Even while

these projects might not directly affect you or be related to your next source of income, this knowledge will allow you to converse intelligently with professionals. They will be impressed when you know which design firm has bid on the latest multi-billion-dollar downtown project.

2. Architectural Billings Index (ABI).⁷ The ABI is the broadest indicator of U.S. construction and architectural work. While it won’t tell you exactly where the next job is, this data collected from firms can be broken down by region and market sector to see which building typologies are experiencing growth – currently institutional (education, government) and mixed-use – and which are in decline – commercial/industrial and residential. Trend reading might tell you that your best chances for finding work are government projects in the Northeast or higher education design in the Midwest, which can be valuable when sending job applications and tailoring a portfolio.

3. Autodesk Education Community.⁸ I said learn Revit didn’t I? Here you can complete tutorials, pick up some 3ds Max rendering tips, and learn sustainable design modeling techniques in Ecotect. Did I mention it is free? And as an even bigger bonus, student versions of Autodesk design software packages are available for free download.

Architecture as Global Community


We live in a global society no longer fettered by regional modes of communication; a world that nests in our pockets. Ten years ago there was no such thing as Twitter; there was no iPad or iPhone. We can now quickly engage the world beyond our own country. And as the global financial crisis shows, we can no longer be solely concerned about the events that happen here.

We now find many large architecture firms, like Goettsch Partners, with 60% of their work in China and 20% in the Middle East. Architects no longer see national boundaries as limits in which they practice, but rather view the world as a platform to create beauty and shape societies. We are global architects, and we will be a generation that may regularly work on projects in other countries. As BIM technology allows us to work on a project in Dubai from an office in New Hampshire, we must gain a further understanding of how architectural education is approached in other parts of the world. What it means to be a professional on the global stage and what the voice of students can bring to the world will directly impact the built environment.

Our involvement in this year’s triennial UIA Congress gave the AIAS an opportunity to be involved in these global discussions. Past President Tyler Ashworth, Past Vice

NOTES

1. Louise Cox, opening ceremony address at the UIA World Congress, Tokyo, Japan, September 26, 2011.
2. “2010 Report on Accreditation in Architecture Education,” National Architectural Accrediting Board, Inc., available at <http://www.naab.org/documents>. 27,852 students were reported enrolled in accredited degree programs, 17,342 in pre-professional degree programs. As many of these pre-professional programs exist at schools that house accredited degrees and feed accredited programs, I consider these students “accredited-track”. Thus the total number of collegiate architecture students in the U.S. in 2010 was 45,194.
3. AEC = Architecture, Engineering, Construction
4. “Architectural Profession Around the World,” International Union of Architects, accessed October 10, 2011, <http://www.uia-architectes.org/texte/england/COAC/ang/compartida/webuia/>.
5. Garry Stevens, “Regulating Architects Across the Globe,” accessed October 10, 2011, <http://www.archsoc.com/kcas/RegulatingArchitects.html>.
6. Students can find out more about the process of licensure at www.ncarb.org/idp
7. The ABI data is gathered monthly by the AIA and can be found with a simple search for “ABI” at www.aia.org or www.architectmagazine.com.
8. Create an account at www.students.autodesk.com



The International Union of Architects/Union Internationale des Architectes (UIA) was founded in Switzerland in 1948 to federate architects around the world. Now based in Paris, UIA represents 1.5 million architects practicing in 124 countries. Core commissions advance three key areas: architectural education, professional practice, and international competitions, and programs focus on six themes: sustainable architecture, architecture and society, urbanization, habitat, cultural identity, and facilities.

The UIA is governed by an Assembly of delegates from member countries, each given a number of votes proportional to the number of architects relative to the global total. Currently the U.S. has the largest delegation with eleven votes; in comparison, Italy has ten, China eight, and Japan seven. A Bureau (similar to a Board of Directors) composed of officers and five regional representatives oversees UIA activities. The U.S. resides in region 3, with all countries in the Americas. A Council – a hybrid of these two bodies – consists of the entire Bureau plus four representatives from each region.

Our involvement in the UIA, the only architectural organization on a global scale, is as important as ever. The UIA commissions continually discuss international agreements for educational equivalencies and standards for practice. As the titles “architect” and “international architect” become interchangeable, the U.S. voice in this arena is vital. In Tokyo the UIA emphasized the importance of students and emerging professionals. President Louise Cox stated it plainly: “Students need to be more involved in the Council and Bureau, as well as other UIA activities.” Architects worldwide are looking to us to assume leadership of our profession.

President Danielle McDonough, and I represented your voice. Our role there was not simply to be a part of the assemblies or lectures, but to be the “on the ground” connection between you and the globe. Through these interactions we created valuable connections for the organization and fueled the dialogues.

It was encouraging and uplifting that students and emerging professionals were the focus of every conversation. Globally, our profession understands the relevance of the student voice. Students offer energy, refreshing idealism, and alternative ways to approach problems, and understand how technology propels our projects forward. This is not where it stops, simply where it begins. I met with representatives of many nations including Portugal, Spain, Philippines, Kenya, Australia, Romania, Belarus, Mexico, Denmark, Vietnam, Japan, China, and Pakistan, and I found that there were major concerns we all shared, three of which are worth noting:

1. Jobs. The ability of graduates to practice internationally, or the simple fact that the work we contribute to is no longer local, but global, is crucial. In a country filled by headlines

that focus attention on recession and unemployment, we must look beyond our borders to develop as architects.

2. Education. Our schools prepare us to practice in our respected nations, yet when I met with 70 students from an array of countries, the majority of them were not practicing at home, but abroad. How can our education encourage us to not only be better prepared to live and understand the cultures where we will work, but be able to practice in places radically different from our own?

3. Licensure. International students want worldwide reciprocity. Students believe that architectural education should be equivalent across national borders. We interact on a day-to-day level via the Internet, where any idea and expression can be translated into an international language, yet architects are met with road blocks: an architect in one place is not an architect in another. How do we practice internationally when our professional compositions and regulations are still defined locally? We must look beyond these barriers and ask: How do we set an example that proves greater value? How do we improve, or possibly broaden, our own standards to set architects apart?

While some of these questions may be hot spots that “rock the boat” of our profession, they are real questions that students have, and AIAS members have opportunities to not only be advocates but encourage the growth of a global profession by working with our collaterals and engaging our schools and peers. To continue the dialogue, I personally invited the students at the UIA Youth Jamboree to attend FORUM in Arizona. I handed out every FORUM ticket I had brought; students wore them on their name badges with pride. As I continued to learn about how each country approaches architectural education and how every nation struggles with economic conditions, I heard how students across the globe envy our ability to unite students as an equal partner in the governance of architecture in the U.S.

Where we go from here? The AIAS – with members from five countries – already looks towards opportunities to grow our international voice. It is our responsibility to continue opportunities to provide meaningful input that will inform the next review of accreditation guidelines; to inform our collaterals to help shape a sustainable future. As part of our UIA experience, we launched AIAS Sound Off, a social media experiment to collect the voices of students. Sound Off is not only for AIAS members, but all students in the global architectural community. Sound Off is an opportunity where we can collect our voices, where you can contribute to the larger conversation. **Join us and join the world: aias.org/soundoff. C**



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THIS YEAR, AIAS FORUM WILL FOCUS ON THE PROBLEMS WE ALL DEAL WITH AS STUDENTS, EMERGING PROFESSIONALS, AND MEMBERS OF OUR COMMUNITIES. WE INVITE YOU TO A FOUR DAY CONFERENCE IN THE DESERT WHERE WE CAN PUT OUR MINDS TOWARDS SOLUTIONS FOR A BETTER TOMORROW.

PLEASE JOIN US FOR VARIOUS WORKSHOPS, DESIGN CHARRETTES AND KEYNOTE LECTURES THAT DEAL WITH ISSUES BOTH LOCALLY AND GLOBALLY. JOIN YOUR PEERS IN AN EFFORT TO HAVE YOUR VOICES HEARD AND TO PUT YOUR PROBLEM SOLVING SKILLS TO WORK. THERE WILL BE PLENTY TO SEE AND DO IN SUNNY PHOENIX, ARIZONA, FOLLOWED BY A NEW YEAR'S EVE BEAUX ARTS BALL YOU'LL NEVER FORGET. WE HOPE TO SEE YOU THERE!



AMERICAN INSTITUTE OF
ARCHITECTURE STUDENTS

FIRST PLACE

“Tkaronto I gs2v”

**Manuel Gross, Yannick Vorberg,
Patrik Staub, Stefan Vetsch**

*Recent Graduates, Swiss Federal
Institute of Technology Zurich*

The Pan Am Village will be located at the West Don Lands, an area separated from the waterfront by the railways, the Gardiner Expressway, and Lake Shore Boulevard. Urbanistically, the selection of the waterfront as the site of the pavilion is very sustainable, bridging the physical and psychological barriers of these transport axes. The pavilion becomes a starting point for further development of the Lower Don Lands. Our design is inspired by the name of Toronto, originally tkaronto, “place where trees stand at the water” or “meeting place”. An enormous “balloon roof” creates an interesting and protective place where people can meet, relax, or entertain themselves. Under the roof boxes lie the different programmatic elements; their form is inspired by the image of supported logs in the wood.

The Victory Soya Mills Silos connect our site visually with the city – projections on the silos bring people to the site. The bar on top of the silos acts as an attraction, even after the games. Improved infrastructure around the site brings people from the wider region. Pedestrians and cyclists arrive via Union Station through redesigned underpasses fitted with the same balloon structure as the pavilion. The Cherry Street underpass connects the village with the pavilion; the Bay Street underpass leads from Union Station to Queens Quay, our main bike and pedestrian path, where we have placed “balloon trees”. Shuttle buses connect Union Station, the pavilion, and the Pan Am Village.

We use vinyl not only as a cladding material; rather we developed simple structures in which vinyl has different functions. The pavilion consists of vinyl-based helium-filled weather balloons supporting a PVC PES membrane. A PVC net holds these elements together. Wire ropes with a PVC coating anchor the construction to the ground. Because helium will not react with its surroundings it is reusable, as are the weather balloons. The boxes are constructed from a simple steel substructure, clad and stiffened by recycled PVC pipes which serve as a sunblind and rain screen. Vinyl insulation with an interior PVC cladding completes the construction. We also use recycled PVC pipes for the park furniture. The bar has an economical structure: reusable scaffolding stairways and construction elevators bring visitors to the top of the silos. The bar consists of a simple steel and glass construction. A PVC PES helium-filled membrane provides a roof, completed with transparent organic photovoltaic cells.

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The 2011 AIAS/Vinyl Institute student design competition, cosponsored by the Canadian Plastics Industry Association, focused on the 2015 Pan American Games in Toronto. The competition challenged students to employ vinyl products in the design of the Awards Ceremony Pavilion to serve as an icon for Toronto and the Games. Entrants were required to consider the long-term use of this semi-permanent structure, as the Pan American Village will provide the basis for a sustainable, vibrant new neighborhood of housing, office space, retail, restaurants and staging areas.

The selection committee included:

Anirban Adhya, Ph.D.

Assistant Professor, College
of Architecture and Design,
Lawrence Technological University

Daniel Ling, OAA, MRAIC, AIA, LEED AP

Principal, Montgomery Sisam Architects Inc.

Daniel Teramura, M. Arch.,

BSc(CE), OAA, SAA, AIBC, FRAIC

Partner, Moriyama & Teshima Architects

Frank D. Nemeth, AIA

Vice President, Healthcare, HGA Architects and Engineers

George Middleton, AIA, CSI, LEED AP

Owner, George Middleton & Associates, Inc.

James N. Parakh, OAA

Senior Urban Designer, City Planning Division, City of Toronto


Jamie Lee

Associate, WZMH Architects

VINYL.AIAS.ORG

Read more about the
competition and view the
complete winning entries
at vinyl.aias.org.





This pavilion seeks to find innovative uses of vinyl by taking advantage of its most sustainable properties: durability and longevity. The underlying concept behind the design is to create a reactive structure based on the ideas of local Toronto architect and thinker Philip Beesley, who proposes that architecture can utilize modern technologies to become responsive to both its surroundings and those who occupy the space within.

A skeleton-like system of reinforced steel tubes gives the pavilion a dramatic form evocative of the motion inherent in the Pan Am Games. The space between the structural members is defined by the context-responsive vinyl fabric cladding which can adapt and appropriately react to various environmental conditions. These vinyl fabric fibers, held in place by a system of steel cables, have the ability to tilt on their axis, allowing them to fully close during a rainstorm and shed rain down the structure to a series of drains that capture and properly store the rainfall. In spring and summer the fabric fibers tilt open at an angle to effectively vent the structure while still preventing excessive sunlight penetration. This reactive system allows the pavilion to continue its usefulness during Toronto's harsh winters. A double-layered vinyl curtain can be lowered over side openings, while the vinyl fabric fibers making up the main canopy system are closed to prevent excessive heat loss.



SECOND PLACE

"Re:con:active Tissue"

Evan Collins

*Third Year Student, Cal Poly
San Luis Obispo*

Advisor: Margarida Yin

A double-layer panelized vinyl canopy over the stage features embedded LEDs combined with a series of motion and audio sensors that interpret the activity on stage and present a light show customized by the activity occurring within. This allows the stage to be uniquely responsive to events, such as award ceremonies or concerts, during and after the Pan Am Games.

This pavilion and its immediate site have been designed to serve as a symbolic beacon of reinvention and a showcase of the sustainability of vinyl. It instills pride in the community while also functioning as a connective tissue for the area, supporting multiple forms of alternative, low-emissive transportation methods such as biking, walking, and mass transit. The development is integrated with the surrounding Pan Am Village through the use of flexible retail spaces, an elevated sculpture garden consisting of works created by local artists, and a commuter rail station located on the eastern edge of the site. Vinyl is featured prominently throughout the site in the form of translucent sound barriers that ring the edges. Panels located underneath the elevated sculpture garden mediate light from nearby cars and trains, creating a distinctive light show visible throughout the site.

Throughout the rich history of Toronto there has existed a strong connection to the water. However, with a shift in population to suburban areas and increased industrial blight along the waterfront, the city has turned its back on the lake. Toronto has lost some of its link to the waterfront, which is charged with possibilities for activities that could enrich urban life. Our response addresses this need for reconnection through a waterfront development that functions both as an awards pavilion during the 2015 Pan American Games and a legacy of natural open space for the citizens of Toronto to enjoy after the games.

The scheme aims to create continuity by constructing a clear link between Toronto's financial district, distillery district, future Queens Quay mixed use development, and future development planned for the industrial zone to the southeast. The building site acts

THIRD PLACE

"[Re]Connect"

as a node between these major zones and becomes a natural gathering space. Our proposal provides a social attraction to the waterfront with varied functions including an outdoor cinema projected on the side of the historic Victory Soya Mills silo, several pools and interactive fountains, multi-use park areas, children's play areas, a small beach, and plaza spaces that can host community events such as farmers' markets, food fairs, and outdoor exhibitions.

Creating a natural landscape that can support large volumes of people presents the problem of erosion and compaction of soil. To address this, a vinyl geo-grid made from woven PVA yarn with a PVC coating is installed below the surface to absorb this weight. This application will not off-gas or biodegrade.

Runoff water naturally filters through the soil and releases, uncontaminated, into Lake Ontario. Toronto could use this system as a showcase for future waterfront development as a part of its ongoing campaign to curb runoff pollution.

Dominique Kletter, Michelle Han, Justin Hazelwood, Colin Ostman

Third Year Students, University of Colorado at Boulder
Advisor: Scott Lawrence

A translucent vinyl panel cladding system is employed for the pavilion's canopy. These panels provide protection from sun, rain, and wind with minimal interruption of the lake and sky views. Vinyl's translucent aesthetic and UV resistance makes it an ideal material for the canopy. The same translucent panels are used throughout the project for handrails, safety barriers, and restroom dividers. We used a plasticized concrete coating in several areas of the project, most notably in the fly-over ramp. This application is advantageous for its smooth clean finish, resistance to stain, low maintenance, and high durability. Its lightweight nature allows for a less-intrusive supporting structure. **C**



VINYL

HONORABLE MENTION

“Ascension”

Luke Durkin

*Third Year Student, Cal Poly San Luis Obispo
Advisor: Margarida Yin*

“The Vinyl Space Frame”

Kamueku Luke Kakizaki, April H.T. Tang

Third Year Students, University of Washington

“Floating Fields”

Josh Hallett

*Fourth Year Student, University of Texas at Arlington
Advisor: Brad Bell*

SPECIAL MERIT AWARD

“Branta’s Reach”

Kristopher Kunkel, Brian Albrecht

*Graduate Students, Miami University (Ohio)
Advisor: J.E. Elliot*

ONE WORD: P L A S T I C S

The year is 1967. Mr. McGuire approaches Benjamin poolside to offer a piece of post-commencement career advice for the young Graduate. In one word, Mr. McGuire presents his thoughts on the future and how to find success: “Plastics.” More than forty years later, it’s fair to say few of us have been lucky enough to receive such timely advice. But despite the ubiquity of the material and the growth of a multi-billion dollar industry, we are just beginning to understand the true potential of plastics.

Earlier this year, the Columbia University Graduate School of Architecture Planning and Preservation (GSAPP) hosted a three-day symposium on plastics and their role in the built environment. Sponsored by the Vinyl Institute, *Permanent Change* brought together researchers, instructors, practitioners and industry leaders for panel discussions, lectures and exhibitions. Topics varied: tectonic technologies, thermosets, plasticity, recycling, lifecycle assessment, marine debris, and the concept of “designing with the end in mind” were all discussed.

There were a few themes seen throughout, including screen shots from the film, maps of the North Pacific Gyre, inflatable structures, and The Monsanto *House of the Future*. But the major takeaway from three days at GSAPP was this: plasticity for the next generation will allow materials to tear down limits of space, function and products. Plastics will allow us to do things we never thought possible. From the use of tectonics and formed or molded space to printed graphics and buildings only erected when necessary to the use of “smart” materials that breathe or morph based on temperature or light, limits are nearly erased thanks to a technology largely unknown a generation ago.

During the conference, five years of winning entries from AIAS design competitions were digitally displayed in the lobby. The designs celebrated a long history of material innovation that honored place and met community needs. In Boston in 2006, information kiosks employed recycled materials. Transit stops in 2007 explored the rigid and flexible versatility of vinyl applications in Milwaukee. 2008 saw bicycle transit stops in Denver that were durable enough to withstand

extreme seasons. In 2009, students explored how PVC materials could contribute to a boathouse that adapted to its environment.

On these pages, we find winning designs for an awards pavilion for the Pan Am Games to be held in Toronto in 2015. Many explore existing products and applications. But others innovate in a way that challenges industry to rethink materials and their role in meeting design demands. They all consider multiple attributes in material selection and how vinyl can in fact be sustainable.

Later this year, when AIAS gathers in Phoenix for FORUM 2011, students will be challenged to consider the concept of *Solutions*. They will be asked, yet again, how design can meet the needs of communities. The Vinyl Institute is proud to sponsor a charrette to consider water, a scarce resource at the forefront for cities like Phoenix. Students will consider how designers can leverage materials to meet challenges around this resource head-on. We are excited to see what comes out of the discussion.

Months after *Permanent Change* I walked into the dining room of one of my favorite restaurants in New Orleans. On the wall, there hung a framed promotional poster for *The Graduate*. I had gathered during the AIA Convention with friends from a nearby PVC plant preparing for a tour the following day with architecture students and practitioners. The meal was superb. The poster set the tone for a well received toast. But as I sat down to dessert I was left wondering, what do the next five years or more of design competitions have in store for us? What will our “one word” be? **C**



KEVIN MULVANEY

Kevin Mulvaney, Vice President,
Marketing and Communications,
The Vinyl Institute



HARVEST (ARIZONA)

The Arizona Challenge was a design competition hosted by the Two Worlds Community Foundation of Scottsdale, Arizona that sought proposals for a sustainable future. The Challenge encouraged ideas that will push a healthier and smarter way of living and a stronger sense of community to promote growth among societies. The Challenge was to find a beautiful way to integrate human behavior, culture, and sustainability together to generate a physical environment where people can endure throughout all stages of life. A four square mile site situated in Marana, Arizona, was designated for the competition. For more information, visit thearizonachallenge.org.



DANA DECUZZI

Dana DeCuzzi is a fifth-year student in the B.Arch program and captain of the Freedom by Design team at the University of Arizona in Tucson. Originally from New York, the relationship between sustainability and extreme climates has become of interest to Dana over the past eleven years living in the desert, and she hopes to continue this study back East following graduation.

The overall waste of amenities that has accompanied the rise in population in arid, desert climates is unprecedented. Large amounts of the natural resources – water, food, and vegetation – that already exist within the environment are unused. Integration of the concept of “carrying capacity” will ultimately ensure that limited resources are used more wisely, abundant resources are maximized, education permeates society, and positive natural, societal, and cultural relationships become more prevalent. Planning and design should measure the potential sustainability that exists within our environment and monitor the ever-changing natural condition. We can then begin to adapt our thinking into living by virtue of our resources at hand.

“Carrying capacity” can be defined as the environment’s maximum load: the utmost population of plants and

animals that the natural environment can sustain indefinitely given its resources. Carrying capacity as related to humanity does not successfully capture the many layers that exist between people and the environment, whereas animals that survive in the wilderness are adept at utilizing the numerous natural resources in their surroundings. Elements incorporated into the proposal of Harvest that facilitate the theory of carrying capacity are those which characterize the landscape of Arizona, therefore creating site-specific functions for the city.

Four environmental elements that are most affiliated with the state of Arizona are the mountains, the intensity of the sun, the annual monsoon season, and the agricultural patterns which precipitate from each of these features. The

agriculture in the state represents a \$9.2 billion industry, with the ability for year-round crop-growth. On average, 197 days out of the year are sunny. When not bright and warm, the monsoon season brings a scarce 13.6 inches of rainfall annually. Thus, water can be viewed as a treasure; a sacred amenity that must be efficiently captured, harvested, and judiciously distributed. Agriculture and greenery take shape from the incoming water, generating the potential for residents to sow, grow, and maintain their own food. This agricultural focus encourages an open and active environment that requires engaged participants, not just observers. Finally, the mountains enhance these beautiful, natural eco-systems. These features converge through a strong flow of water from the peaks, giving shape to the city and agricultural lands through the orientation of pedestrian thruways along existing topographical contours to respect the mountains' prominence and allow for ease of foot traffic.

Many southwestern households currently have little to no awareness of water intake and carelessly raise plants that are not well suited for the desert. With agriculture and existing desert landscape integrated into the urban environment of Harvest, Arizona, families and residents of the community will gain an appreciation for the capture, gain, and garnish that allows these organic elements to thrive. This will prompt gratification and pride amongst families in their daily food intake and everyday outdoor exposure, encouraging physical activity and the harvest of healthy food. The capacity of what the city produces and utilizes can also serve as mitigation for the heat island effect by leveraging the vegetation to cool the surroundings. Further, cars will not be present in the city. Parking will function initially for those utilizing the nearby interstate until cars are eventually phased out, allowing for pervious paving to be transitioned to pedestrian traffic paths.

Our future communities must give recognition and show awareness for the interconnection that exists amongst them. This philosophy is exemplified not only by the humans who occupy Harvest, Arizona, but all natural systems and ecologies that perform and flourish without human hands within the city. What humans use and take from the land is eventually put back into the land, either through water harvesting or composting. These various levels of capturing, harvesting, and growing interact to create one cohesive setting: one in which human beings and the natural environment can embellish each other in unison through maintenance and enhancement of the ecological cycle. Borrowing this structure from nature, simple man-made communities will function more like natural ones, engendering a mutual dependence of all inhabitants with each other. **C**

All of these features can be equated from a series of calculations that translate into a performative, programmable design:¹

$$\text{SUPPLY} = \text{catchment area} \times \text{rainfall} \times \text{runoff coefficient} \times 7.48 \text{ gal/cf}$$

$$\text{SUPPLY} = (11,513,600 \text{ sqft}) \times (0.88 \text{ ft}) \times (0.90) \times 7.48 \text{ gal/cf}$$

SUPPLY = 734, 027, 120 gallons of water/year collected on the site from roof run-off

$$\text{AREA} = \text{demand} / (\text{evapotranspiration} \times \text{plant factor} \times 7.48 \text{ gal/cf})$$

$$\text{AREA} = (734, 027, 120 \text{ gal/year}) / (10.6 \text{ ft} \times 0.26 \times 7.48 \text{ gal/cf})$$

AREA OF POTENTIAL CROP USAGE = 35,632,384 square feet

1 acre collects 325,351 gallons of water per year, which is enough to support two families of 3.

325,351 gal / (6 people) = 54, 225 gallons of water per year per individual

734, 027, 120 gal/year / (54,225 gal/person) 54,225 x (0.50) = 27,112.5 gal/year; intentions of reducing water usage by 50%

1,000 people = 27, 112, 500 gallons of water/year

13,515 people = 366, 018, 750 water/year used

NOTES

1. Equations derived from Daniels, Tom and Katherine Daniels, *The Environmental Planning Handbook: For Sustainable Communities and Regions* (Planners Press, 2003).

PROJECTS

projects

LAWRENCE TECHNOLOGICAL UNIVERSITY FREEDOM BY DESIGN



JACOB BOYD

Jacob Boyd was the 2010-2011 Freedom by Design director and is now the Vice President of Public Relations at AIAS LTU. Jacob is studying architecture and construction management and has helped to drive the construction documentation and permit process within the LTU Freedom by Design program.

The Freedom by Design program at Lawrence Technological University (LTU) opened last year with a question: "What is Freedom by Design?" As the largest single program for membership involvement in our chapter, we believed it was time for our program to expand beyond the individuals involved. Throughout the year the team searched for the answer, challenging the conception of Freedom by Design as a wooden ramp project and pushing for something more.

The year began with the Saine family project, a single family home that lacked easy access through the front door after an accident that left the husband in physical therapy. After meeting with the family, the team chair, Jacob Boyd, and team members Eliza Morales and Dave Andrus established a design charrette open to all architecture students at LTU. The charrette attracted numerous teams composed of five students from multiple years of study.

During this process the Freedom by Design leaders engaged more faculty and staff. Inviting faculty from different concentrations of architecture and design, the charrette was capped by a final crit from studio faculty

which steered the design for the project. Involving faculty allowed the team to make the professors more interested in Freedom by Design and garnered their support of the AIAS chapter at LTU. This also led to a design for an angled concrete pathway unnoticeable on the front façade of the home.

After the charrette, students presented the top three designs to the family for feedback and comments. While Mr. Saine's physical therapy schedule precluded the family's involvement in every session, they were very appreciative of our efforts to fit the design process into their schedule and provide multiple options.

After the success of the Saine family project the team sought to reach outside our own resources. By pairing with the Michigan chapter of Rebuilding Together, our program was able to work with the Carpenters Union of Michigan. Together we designed a shed for Karen Jordan that afforded her storage space outside of her small home and provided greater accessibility. Our team designed the shed, created the construction documents for the carpenters, poured the foundation, and prepared the site for the prefabricated panels.



BRYCE GAMPER

Bryce Gamper, the 2011-2012 Midwest Quad director and chapter president at LTU, has been involved with the Freedom by Design program for over two years. Bryce is finishing his Bachelor of Architecture and has also studied product design.





ELIZA MORALES

Eliza Morales is the 2011-2012 interim Freedom by Design director at LTU. Eliza has been coordinating projects for the past year and helped to bring the Rebuilding Together organization on board as a partner with the LTU Freedom by Design program. Eliza is in her third year of architecture school.

This unique partnership allowed the team to begin a second project in the spring semester, with Rebuilding Together providing financial support and serving as mentors for construction and project management.

To wrap up the spring semester the team maximized our focus on civic engagement by supporting efforts to promote urban agriculture in downtown Detroit. With the *20 in 20 hoop house project* the AIAS chapter was able to participate in the assembly of a greenhouse in the Edison district. On an empty plot of land where an elementary school once stood, over twenty AIAS members learned about plans for the land's renewal as an urban farm and worked with other volunteers to erect the site's greenhouse in under one day. By reaching out to the *20 in 20* team our chapter and our Freedom by Design program became more engaged with our community and impacted numerous lives through a project that is predicted to spur growth in the surrounding area.

Our new team chair, Eliza Morales, has continued the partnership with Rebuilding Together to take on our team's largest project. The team has started work on the update and renovation of the Common Ground

Youth Shelter kitchen in Royal Oak, Michigan. The renovation encompasses a complete makeover of the small space, challenging the team to create a design that is durable yet comforting and home-like. The project also includes a workshop with the teens living at the shelter to expose them to the world of architecture and empower them with skills they can take to college.

The underlying current that has driven our AIAS chapter and the Freedom by Design program is our focus on civic engagement: the ability of our projects to connect us with other professions and organizations while making a larger impact in our community. By varying the sizes of our projects we have fulfilled many different aspects of the Freedom by Design mission, touching the lives of individuals while influencing the future of an entire community. The ability to team up with other nonprofits with similar goals but different resources allowed our projects to grow in size and impact. Using our talents as designers and knowledge as architecture students we are able to market ourselves as a resource to other organizations and forge mutual relationships that allow our groups to mature in ways not possible before. **C**

PROJECTS

projects

NORTH DAKOTA STATE UNIVERSITY FREEDOM BY DESIGN



HEATHER KVAMBECK

Heather Kvambeck is the former and founding Captain of the Freedom by Design team at AIAS NDSU.

At North Dakota State University (NDSU), the Freedom by Design team strives to break any barriers that may exist between students in different design fields. Our team successfully contacted the construction management and engineering, interior design, and landscape architecture departments through emails, school newspapers, and advertisements. These students were very helpful through the design process, providing their knowledge from their specific fields of study. We now have a better understanding of our different skill sets and understand how professionals collaborate on projects.

Our Client

"Corky" Cameron Titus, Jr., now, 64, was introduced to us through our construction mentor, John Gunkelman, president of Dakota Construction of Fargo, and his connection with the local Home Builders Association (HBA). Nine years ago Corky was diagnosed with idiopathic peripheral polyneuropathy, which has left him with no feeling from his fingertips to his elbows or from his toes to his knees and confined him to an electric wheelchair. When we first met Corky in fall 2009 he told us, "I never found a wall I couldn't get through, never found an obstacle in front of me that I couldn't get past, except for this. All I really have left is my freedom, and it is because of you [students], your

willingness to be here and your willingness to do what you're doing."

Design Process

After spending fall 2009 designing and building a ramp our team focused on the kitchen. Corky contributed to several charrettes focused on accessibility and maximizing storage. We learned much about communicating design ideas in a way that helped Corky and his wife, Peggy, participate in the design process and understand the changes we were discussing. Our design mentor, Steven M. Foss, AIA, president of SM Foss Architects, was proud of what we created: "Your kitchen solution[s] made sense, providing both functional and aesthetic practicality in a small space occupied by two persons at a time. Just as important, Corky was provided the opportunity to contribute to the process of food preparation, cooking and clean-up, in spite of his tactile and ambulatory limitations."

Fundraising

Throughout this project we maximized marketing through the school website, newspaper, and mailings, as well as the HBA Newsletter. Through this a city planner contacted us about possibilities for funding, and although Corky's project didn't quite qualify, we made a strong connection that led to our project this fall. We raised money for the

Working on Corky's kitchen foremost made me see how something so simple that I take for granted every day can still have accessibility and usability issues. This was a great opportunity to get some minor construction experience I would otherwise have never received. I never realized until this project that I'd actually never seen what a residential floor looks like underneath the tile or hardwood, or how kitchen appliances hook up to walls. I also realized how passionate I am for helping others through design and how great the need is for simple projects such as this.

Ginnie Hausladen, 4th year architecture student

Corky did us a huge service with this project, not the other way around. Corky opened up his house to a bunch of half-schooled, inexperienced students and gave us full control of the reins to do a number of things we have never done before. We got first-hand building experience – many of us for the first time. We experienced the design process through communication with a real, not imaginary, client. Corky treated us with great respect throughout the project and it has no doubt added to my understanding of the design profession as a whole

Dane Andersen, 3rd year architecture student

Working on Corky's kitchen was a great way to see how we can apply the skills we have learned in school in a real-life setting. It has been an amazing opportunity to connect with others who share a passion to work together to provide a solution to someone in need. My involvement in FBD has led me to consider a career path involved with local communities, architecture, and humanitarianism.

Tinn Lee, 4th year interior design student



Through the NDSU AIAS Freedom by Design Program I was introduced to a definition of freedom that I truly believed did not exist. The freedom to come and go from my home whenever I want or need to. The freedom to be in my kitchen with the person I am married to and our children without stopping whatever they were doing. The freedom to prepare meals for myself, my family, or guests. The freedom to unload the dishwasher and put all the dishes away. All of this and so much more were made possible by the incredible and selfless students of the NDSU AIAS FBD Program, their design mentor, Steve Foss, and construction mentor, John Gunkelman, Don Denning and many other Fargo businesses who supplied necessary supplies to help me understand what the definition of freedom truly means.

kitchen through over fifty volunteer hours put towards a variety of activities including food and t-shirt sales, individual donations, and a 5k run/walk. We also received donated materials and professional labor.

The Unique Design Element

Due to the space and storage limitations in the kitchen we designed a cart that can be moved to the side, allowing Corky access to a lower work surface at an ideal height for his wheelchair. The cart is set on fixed casters, complete with drawers, a storage space for a mixer, and a pull-out cutting board. We replaced a majority of the lower cabinets with sets of large drawers housing dishes, pots, and pans and replaced the microwave above the stove with a countertop version. Finally, we widened the doorframe that prevented the refrigerator from fully opening and replaced the refrigerator with a French door style. These modifications provide Corky with a greater sense of independence, safety, and ease as he uses and shares the kitchen with family and gives Peggy freedom from constant worry.

Construction Process

Our construction mentor leveraged his connections in the Fargo area, without which Corky's kitchen would not have been such a success. Don Denning of Denning Fabrication welcomed us into his workshop and allowed us to assist him with the construction of the cabinets. Knowing and working with Don was a big advantage to this project: he purchased the hardware, drawer tracks, sink, and laminate at cost or at a discount.

We tested our true ability to organize demolition and construction schedules, accommodating the demands of professionals, students, and the client, all in hopes of making the transition from old kitchen to new kitchen as smooth and short as possible. In the first four days we removed the cabinets and flooring, widened the door frame, cleared debris, and patched and primed the walls. The professionals laid the donated tile floor over the following three days. A mere week after we began the demolition we started installation with the goal to return the kitchen to useable condition before students departed for winter break, only a few days away. The new cabinets, countertop, under-mounted sink, lower drawers and doors were installed as new appliances, also donated, were delivered. The last day before break the plumbers attached the water supply to the sink and faucet and installed the new dishwasher. Once the upper cabinets and the new shiny hood were installed the new stove and fridge were moved into place and Corky's lower work surface and cart were installed. The final details – the refinished upper cabinet doors with new hardware, baseboard, and backsplash – were installed shortly after the break. Corky states that he is more than pleased with his new accessible kitchen:

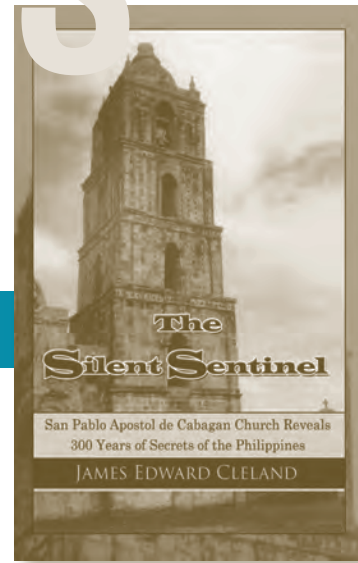
By the end of the construction over 200 volunteer hours were given by students, not including the many hours our volunteer contractors spent working on the kitchen. In total, through over 450 volunteer hours, students created, revised, and implemented ideas, turning our clients' dreams into reality. **C**

REVIEWS

reviews

THE SILENT SENTINEL

James E. Cleland
AuthorHouse, 2008



In *The Silent Sentinel*, Mr. James E. Cleland takes the reader on a journey through the histories of San Pablo Apostol de Cabagan Church and the Philippines. As the reader travels from the beginnings of the Spanish colonization, through the Japanese occupation during WWII, to modern time, we see just how intertwined these histories are. We see how the people of the Philippines influenced the church and its construction and in turn how the church influenced the people.

Cleland makes a compelling argument as to why San Pablo Church should be preserved and protected. Not only is the church one of the earliest examples of a uniquely Filipino architectural style, it is a symbol of Filipino endurance and ingenuity. It is a bastion of cultural pride and a beacon of faith to a people whose history is filled with turmoil. Cleland also justifies the preservation and protection of San Pablo by drawing comparisons to the restoration efforts of Notre Dame de Chicago and the colonial buildings of Williamsburg, Virginia. He examines the difference between restoration and renovation and weighs the advantages of both in reference to San Pablo. *The Silent Sentinel* dissects many parts of the church – its façade, the bell tower, even the stone and adobe bricks – and examines the Mexican, Spanish, and Italian influences on Filipino architectural style. The reader journeys with the church from its conceptualization to near destruction.

As a student, I am required to read many books. Many of them leave no impression on me; I simply remember the plot, themes, or the author's use of rhetorical devices. This was not the case with *The Silent Sentinel*. Perhaps this is because I am Filipina, or because my mother is from Cagayan Valley, but the story of San Pablo Church captivated me. What struck me the most about the book is Cleland's passion for the church and its people. He writes, "The reason that this church must be allowed to stand as it was intended to stand by the *maestros* hundreds of years ago, is that it is the church of **people**; these people make up the Cagayan Valley." My mother was born and raised in Tuguegarao,

a village in the Cagayan Valley. While reading *The Silent Sentinel* and the personal stories within it, I was reminded of the stories my Lola told me as a child. I remembered the story of how she and her family fled to the mountains during the Japanese invasion. I remembered the stories of fiestas and celebrations that took place at their church; how she experienced the deep bonds between a community and its church. The people's ties to San Pablo Church are reason enough for me to justify its preservation.

The chapter on the style of the church also stood out to me. Filipino culture is filled with Spanish influence, and San Pablo reflects this. From the text, "The student of Philippine church architecture must, of necessity, become a student of all the variations of Spanish colonial architecture found in the Americas; the child born in the Philippines was conceived in the Americas." However, San Pablo differs from other Spanish churches in ways that make it uniquely Philippine. Mr. Cleland writes, "The stone-and-adobe creations were lyrical – a Philippine poem born of necessity, reminiscent of Spanish colonial churches but possessing a folk naiveté filled with charm and innovation."

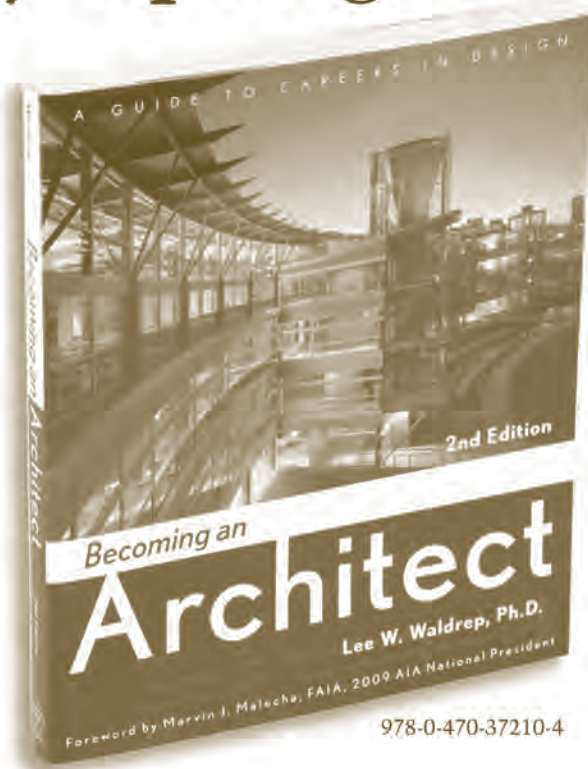
Mr. Cleland, my design teacher and architecture club moderator, has changed my perspective of architecture. Before, I would pass buildings and only appreciate them for their aesthetic beauty. Now I have come to appreciate the years of planning, the influences, and the purpose and thought put into each aspect of a structure. I have learned that there is an irrevocable tie between people and the buildings they construct and inhabit; the invisible tether that binds their histories together. His class served as a reprieve from the chaos of the school day. It was a place where I could lose myself in the beauty of design and architecture and work on projects that truly made me proud. After reading *The Silent Sentinel*, my respect for Mr. Cleland has grown tenfold. His passion for architecture has always shined through his teaching, but it burns especially bright in his book. **C**



REVIEWED BY
MICHELLE CABAHUG

Michelle Cabahug is a senior at Loyola Academy in Wilmette, Illinois. She is a Clavius scholar, a member of the cross country and track teams, an editor of the school newspaper, and a member of the AIAS at Loyola. She intends to major in either electrical engineering or computer science.

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JOSHUA CAULFIELD
IOM

Joshua Caulfield is the
AIAS Executive Director.

LEARN NOW; USE LATER.

“Non scholae, sed vitae discimus” is a Latin phrase which translates as, “We do not learn for school, but for life.” I am confident that many of you reading this article will think this obvious, even as you cram for a test or skip a non-required homework assignment because you know it will never come up as an exam or affect your grade.

As students there is so very much to accomplish in such a limited span of time. Academic demands of assignments, studio, critiques, and reading are complicated by the administrivia of life such as paying bills, getting a haircut, laundry, completing forms, and selecting classes for future semesters. The desire for a social life then adds another layer of phone calls, texts, emails and even in-person gatherings.

This must by default create an unseen but ever present weight of the “things to do”.

This pressure doesn’t go away after school. Professionals, just as students, must meet deadlines, attend meetings, and complete trainings in new techniques and technologies.

So it is that we often forget that the things we do are FOR LIFE. We learn, work, sleep, enjoy other’s company, travel to other parts of the world, and experience new events and things not to check them off some imaginary list, but because these activities enhance our LIFE.

I encourage you to consider that the education you are receiving, while certainly focused on the profession of architecture, prepares you for so much more. Design, studio, structures

and other classes actually teach you critical thinking, decision making, communication and presentation skills, and much more. These will serve you outside the classroom throughout your time on the planet.

While many of the things you learn have a practical and relatively immediate application, they also shape how you are capable of interacting in the world beyond architecture.

The AIAS is preparing now to attend and represent students of architecture across the country at the National Architectural Accreditation Board (NAAB) Accreditation Review Conference in 2013. The task force that is planning and supporting your representatives must look beyond the simple needs of finding a job and ensuring that structural design is being taught in every school. They cannot get bogged down in political issues such as whether every faculty member is a licensed architect, the process of tenure, or the cost of materials.

They must look at the education of the next generation of architects not as it relates to school, but as it relates to the preparation of tomorrow’s leaders for LIFE.

Watch the AIAS website for more information on this important event, how your team is preparing for it on your behalf, and how you can get involved.

And most importantly, keep learning, because it’s YOUR LIFE! **C**

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