Catalytic Approaches to Humanitarian Design: Critical Reflections upon Twenty Years of Design and Education for the Public Interest

Practitioners, students and educators of architecture must implement new ways of learning and practice to help solve problems of the global commons. Catalytic approaches can help designers bring their skills to billions of potential clients. New partnerships can create solutions to those human and planetary needs, while increasing the capacity of those in architecture and other design fields to achieve more for the public good.

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THE PROBLEM

We and the planet are suffering. Climate change, loss of biodiversity, soil erosion and water degradation are all getting worse. At the same time, cultural disruption, increased war and unsustainable urban growth have become the norm. The relationship between social and environmental issues is symbiotic, and current approaches to design are part of the problem. As Naomi Klein says, we have "... globalized an utterly untenable economic model of hyperconsumerism. It's now successfully spreading across the world, and it's killing us" (Klein in Mark, 2013).

Since most of the people on the planet can't afford an architect, the profession has a limited impact on the world's population. Yet, billions of people live in inadequate conditions that also contribute to ecological destruction, both of which problems could benefit from the skills of the designer. Indeed, since the environmental crisis is largely a human crisis, architects are uniquely suited to mediate between human beings and the environment. With creative use of resources and collaborative practices, architects could design solutions created to spread throughout communities, in order for our planet and species to thrive.

Conventional architectural training is a clearly an asset for those engaged in public interest design work. However, public interest design has multiple, unique and competing aspects outside of traditional architectural skills. For example, some "clients" come from places (war zones, refugee camps) that are so dangerous, that interchange and community are difficult if not impossible (Pat McArdle, personal

communication, 2013). However, when these external aspects are learned and respected, a "responsive" architecture can result that evokes knowledge and good design from both the architect and the community client (Thorpe & Ganman, 2011).

While humanitarian architecture is a growing field, Korten asserts that "[s]ocial responsibility is inefficient in a global free market…" (Korten in Stairs, 2005). This implies that, for efforts to be successful in the long term, either the current economic system must change, or altruistic efforts must adapt to global economic conditions to be effective. In response, some architects have created new business models to engage architectural self-interest (Peterson in Cary, 2010). However, the equivalent of a public health professional does not exist in the architectural profession, and there are few developed processes for architects and other designers to serve local communities, even as interest in humanitarian design has grown in the aftermath of 911 (Verderber, 2003), and students now seek out public service architecture in their education (Kurt Hunker, personal communication, 2013). This growing interest, but lack of opportunity to apply that interest, leaves graduates scrambling for opportunities. Those that do work for the public good are dependent on volunteerism, non-profit funding, and often the foregoing of a more lucrative type of practice.

Despite these challenges, successful efforts by pioneering designers show that there is reason to be optimistic that a robust strain of education and practice for this type of architecture can continue to grow, and that by seeking partners in creative new ways, architects can manifest replicable solutions to a range of situations faced by heterogeneous communities.

WHAT HASN'T WORKED

Economic growth does not equate human development, and in many cases investments in the built environment have proven detrimental to human communities (Kosack & Tobin, 2006). Few new techniques introduced to local communities are constructively adopted. In fact many efforts make a bad situation worse. (Salazar, in Kennedy, 2004). Projects may look good at first but later go to ruin. An overly "global" perspective creates local losers in environmental "shell games" like cap and trade, where a forest may be saved, but the indigenous people who live there are ousted (Klein in Mark, 2013). Even when successful, most so-called development projects are brief intercessions with little follow through. In fact, most agreements between aid groups and local communities are defunct. (Junne in Breddels & Oosterman, 2010).

Aid organizations have become increasingly separated from the communities they "serve" (Junne in Breddels & Oosterman, 2010). Do-goodism to help the "poor" is common, but often evidences an elitist attitude that denies community voice and agency (Architecture for Humanity, 2012). The common "needs based" approach devalues the contribution of local communities to the solution (Hendler-Voss in Bell & Wakeford, 2008). Because follow-up is uncommon in much public interest design, lack of feedback leads to poor solutions being underreported and institutionalized (Kennedy, 2004).

Communities around the world are often assumed to be historically underresourced, and ill-equipped to respond to the grand challenges facing the planet. In response to this arrogant assumption, indigenous communities have articulated their own vision of human development (Bustamente, 1999). Their vision is in stark contrast to that proposed by most "development" workers. Indigenous communities have much knowledge to offer that can help their communities and

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Figure 1: A few of the six billion plus clients for humanitarian architecture. *Dennilton, South Africa.*

others (Ani, 2013). The contrast between local desires and "expert" assumptions is often striking (Hau in Bell & Wakeford). Poorly designed processes lead to failed projects to the detriment of practitioner and community. More research and assessment is indicated, beyond what is normally thought as the purview of the architect (Jones & Card, 2011).

THE ARCHITECT AS CATALYST

Architects are not solely responsible for problems in the built environment (Thorpe & Gamman, 2011). Other stakeholders must also be part of the solution. Long-term successes in sustainable development are rooted in local communities, and rely on community assets, skills and agency (Kennedy, 2004). But, architects *can* be catalysts to spark a positive reaction in willing communities (Peterson in Bell & Wakeford, 2008), and through well-considered partnerships and interventions, humanitarian architects can effect significant change. As Swenson writes "[c]hange is never easy for an established community. But when it improves the quality and quantity of affordable housing while respecting a place's inherent history, values, and culture, change is a positive force" (Swenson, in Bell & Wakeford, 2008).

"Catalytic architects" could describe those designers that seek to enable positive community change in an ongoing way. A catalyst is a substance that enables chemical change without itself being changed. To apply the metaphor, in contrast, public interest designers often get "used up" by unsustainable approaches to the work (Charlesworth in Hyde & Moore, 2010). Through catalytic approaches to the work, however, the profession can conserve human capital and perhaps more likely achieve the levels of global solution needed. Current strategies that depend upon on volunteerism are not sufficient to the size of the problems faced in the global commons. A long term effort to finance public interest architecture and support individual architects is necessary to preclude practitioner burnout.

However, once it is clear that agency, control and responsibility lay in large part with the local community, designers can act more strategically and avoid wasted effort. Local social, physical, and knowledge assets can be maintained, grown and replicated through long-term associations. By thinking in generational terms to ensure lasting positive change, sustainable approaches can effectively root in the community

Figure 2: Tamping an earthbag building in South Africa as part of a training workshop offered by the author. 2

(Klinker in Kennedy, 2004). Given the pace of social and environmental trauma, this will only be possible through a comprehensive and holistic approach (Cousins, 2013).

OPPORTUNITIES IN PUBLIC INTEREST DESIGN

Architects are uniquely placed to offer skills and leadership to the field of humanitarian design and are capable of becoming an even more impactful cohort of practitioners. Many designers desire to do work in the global commons, but first, legal and other barriers to involvement must be addressed. Approaches from many disciplines outside of architecture may help address the shortcomings of past public interest design work. Successful humanitarian approaches often share an ethos (Busch, 2008): a "fraternal" rather than "paternal" relationship between the designer (or other actor) and the community client (Thorpe & Gamman, 2011).

Local problems are incredibly varied, with one-size-fits-all solutions generally inappropriate. However, some aspects of solutions are replicable (Kennedy, 2004). These replicable aspects are often asset and process-based as opposed to need and solution-based (Fan, 2012, Borrup, 2006). In addition, long-term engagement has been found successful for transformational change, with "slow prototyping" over time leading to locally-adaptable robust solutions (Thorpe & Gamman, 2011). Evidence based design can help architects move past false assumptions and failed processes (Kopec, Sinclair & Matthes, 2012). Communications and other emerging technologies provide new frontiers of research and activity (Aeshbacher & Rice in Bell & Wakeford) to enable humanitarian work to be more effective. Designer/community teams are beginning to create "languages" of design approaches that can be utilized in response to local conditions through using community-centered collaborative processes (Architecture For Humanity, 2012, Bell & Wakeford, 2008). The best of these solution sets can be shared widely to teach and inspire others in similar conditions.

WHY DOESN'T PUBLIC INTEREST DESIGN HAPPEN MORE OFTEN?

If we have a notion of what works to solve human problems, why don't we do more of it? Due to its inherent complexity, this work is difficult enough in the most ideal of conditions, but often projects are beset by other problems:

- The aid industry is huge and politically intertwined — a network of organizations with sometimes contrary ends. Indeed, despite obvious benefits, little coordination exists between those who do humanitarian work (Junne in Breddels & Oosterman, 2010).
- Designers are constrained by problems that are "generated by other parts of social formations" (Jones & Card, 2011).
- A culture of mistrust is common in local communities due to bad experiences with previous development efforts, poor program design, or any other number of failures (Junne in Breddels & Oosterman, 2010).
- There is often an insufficient budget.
- Aid and Financial Direct Investment can do harm to countries if ill-considered (Kosack 2006).
- Being located in a post-conflict or otherwise unstable situation.
- Fantasy or one-off projects that provide pretty pictures but don't make a lasting difference. It is important to avoid subtle traps of exploitation through inappropriately "romanticizing" the work (Jones & Card, 2011).

- Legal issues of working in humanitarian architecture. Other institutional barriers to professional involvement.
- Little educational opportunity or paid work in this field.
- Architecture has a lot to offer, but it is unclear how best to channel that effort, both in the profession and in the academy.

Each of these issues must be addressed for public interest design to grow.

HUMANITARIAN PRACTICE AND ITS IMPLICATIONS FOR THE PROFESSION

For public interest architecture to become a more viable profession, many changes must first occur. This type of practice is often invalidated as a career path, through lack of financial support and professional opportunity. Professional organizations, governments, and schools also need to give this architectural approach as much credence as "mainstream" architecture (Ward in Jones & Card, 2011). While volunteer opportunities are important, these approaches need to be rationalized to maximize positive impact of human and material investments. At the same time we can think "outside the box" and develop innovative strategies with a wide range of actors, some of whom may not have worked together before.

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Figure 3: Building a community bench with volunteer experts guiding local neighborhood volunteers. Part of the "Village Building Convergence" held in Portland, Oregon each Spring.

Funding innovations could allow practitioners to move beyond volunteerism, which severely limits the time and energy that designers can put toward projects of this type. Integrating a design perspective into existing aid and development programs (Peace Corps, etc.), could positively impact those organizations. Mockbee asserts that we must choose "between fortune and virtue" (Mockbee in Jones & Card, 2011), but a new understanding of public interest design may result in more effective processes for a designer to do good, but still have a life. And architects and other designers need to identify and champion potential projects themselves, and not wait for a community client to find them (Peterson in Bell & Wakeford, 2008).

A choice for public interest designers is between domestic projects and international humanitarian work. Projects closer to home are often desirable because

they can lead to long-term relationship between the designer and the community. While international projects are "sexy," they can also be fraught with complex problems difficult to solve across long distances. These projects are also more expensive and are generally of a shorter term than domestic projects. Many international projects are in post-conflict situations which have their own set of issues and dangers. As these projects are prone to failure, investments of time and effort must be considered very carefully (Kennedy, 2004). It is of key importance to work with a reputable local partner.

While difficult to quantify, the intangible benefits that result from multi-cultural exchange are profound (www.lislefoundation.org). Some "study abroad" programs already integrate a humanitarian service learning component. Greater intercultural understanding could lead to improved approaches to design.

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SUSTAINABLE BUSINESS PRACTICE FOR PUBLIC INTEREST DESIGN

The economics of public interest design challenges the growth of this work. As Michael Murphy of MASS Design Group says, "[i]ncreasingly, architecture is serving the wealthy few. We've got to come up with new models to deliver fundamental services to communities that have been underserved" (in Hughes, 2012). Three different economic models characterize most public interest design work. Many projects utilize a combination of two or even all three of these approaches.

In a service-based model, architects and designers donate their time and energy toward projects. This is usually done as an adjunct to conventional practice. Public Architecture's "1%" initiative currently strives to get all architecture firms to donate 1% of their time to the public interest (www.theonepercent.org). Other firms have found ways to develop fee-paying clients through their pro-bono work

Figure 4: Student-built refuge designs at CalEarth, Hesperia, California. This is an example of a simple, robust technology that relies upon local materials, easy-to-learn skills, and design flexibility to solve global housing problems in several countries around the world.

or through creative government partnerships (Hughes, 2012). Another model is the non-profit approach that depends on donations and grants for public interest work, with some designers finding volunteer opportunities through such organizations like Architecture for Humanity. The third model is self-funding, where projects create economic opportunities to fund themselves, including sales of goods, micro-loan programs, or crowdfunding (e.g. Kickstarter (www.kickstarter.org)).

Creative partnerships between education, business, government, the non-profit sector and local communities can help multiply impacts of investments through holistic approaches. Purpose Built Communities has found success in the Southern US through tackling housing, wellness and education at the same time in well-defined communities (Cousins, 2013). Informal adoption of innovation by the local population, ideally through a teacher-training process, is necessary to magnify the positive impacts of a relatively small number of professionals (Norton, 2012).

COLLABORATION AND THE TEACHING OF OTHERS

Aeschberger and Rice assert that "crossing boundaries of discipline and scale is the first step in enabling emergent forms of collaborations to flourish" (Aeschberger & Rice in Bell & Wakeford). Collaboration underpins successful work in public interest design. "Fraternal" working relationships create collective agency and helps work go more smoothly, and helps develop trust that can assist innovation (Thorpe & Gamman, 2011). Even in conflicted situations, Shoshan points out,

> "[i]t seems that architects can automatically operate as peacemakers. They need to be a master negotiator (of the client, the law, the phys ical context and artistic desires), and take these forces and flatten them into a two-dimensional scheme, such that they can create a position in which peace can exist" (Shoshan in Oosterman & Moore, 2010).

Collaboration through education and design can be a deeply powerful experience. When students are embedded in a community, they can engage in shared co-teaching experiences (Freire, 1970).

Designers must strike a balance between leadership and letting go of results. To do this they must:

- Learn facilitation skills (leading meetings, negotiating, teaching, presenting)
- See themselves as teacher/learners (Freire, 1970)
- Use scaffolded curriculum to elicit leadership from students and community.
- Invent "processes, systems and services that empower communities and shape behaviours towards more sustainable ways of living" (Thorpe & Gamman, 2011).
- Utilize participatory processes as it is "... the best weapon to prepare for the future" (Muneanu in Diabate, 2012)

Public interest designers need to be comfortable working with diverse groups. Intercultural training can provide rich preparation for practitioners in the field. By focusing on people in community, as opposed to creating artifacts, architects can co-create a process that empowers while it increases the knowledge base (Fan, 2012).

HUMANITARIAN PRACTICE AND ITS IMPACT ON THE ACADEMY

Pedagogy is a key opportunity to implement ideas regarding humanitarian architecture (Jones & Card, 2011). Samuel Mockbee said that designing and building in community has a profound effect on a student's later career (Kroiz, 2012) and support for faculty to create programs to address a public need would help teacher and student become more engaged in the community. Studio courses in particular can partner with humanitarian projects to take advantage of underutilized design resources (Verderber, 2003). Schools can support public interest architecture by applying a certain percentage of studio projects toward such collaborative efforts. It should be remembered, however, the projects undertaken in the context of a university program may not be practical in a real world architectural setting (Badanes, in Kroiz, 2012).

As the public demands increased accountability from professionals, evidence based design research can help identify, define and support the implementation of best practices (Kopec, Sinclair & Matthes, 2012). A global agreement on a design research agenda for human-centered development would help avoid duplicated efforts and increase the knowledge base for effective work in the field. Academic partnerships with business and communities could help create funding and other mechanisms for real projects to germinate and grow. However, this type of "outside the box" thinking will be complex, given the highly regulated environment of architectural education.

RECOMMENDATIONS: HOW DO WE BETTER PREPARE THE NEXT GENERATION OF PUBLIC INTEREST ARCHITECTS?

Design schools must find creative ways to integrate public interest perspectives into education. Knowledge outside the usual confines of architecture is necessary (Jone & Card, 2011). This demands flexibility and innovation from administrators (Verderber, 2003). Other academic fields outside of architecture can offer useful perspectives, curricula and courses (Guy & Moore, 2007). The academy can:

- Support efforts like Architecture for Humanity and Design Corps (www.designcorps.org) that place emerging architects with public interest design projects.
- Create model community projects throughout the world. These would be field stations for research and community development. These need to be generated and "owned" by the local community in association with design partners.
- Create a comprehensive research agenda on participatory public interest design to help guide colleges and universities around the world.
- Provide real opportunities for service in school and out. Help students create a design "toolkit" of different approaches (Thorpe & Gamman, 2011).

RECOMMENDATIONS: WHAT STUDENTS NEED TO KNOW TO PRACTICE PUBLIC INTEREST ARCHITECTURE

- Details about the area of need (geology, climate, culture, politics, etc.)
- An overview of public interest design strategies and methods (best practices approaches, theory)
- Indigenous perspectives and strategy for development (Ani, 2013)

- Intercultural skills (citizen diplomacy, empathy, ability to listen)
- Cultural sensitivity (avoiding "trauma-glam" (Hyde in Hyde & Moore, 2010))
- Practical building skills (surveying, layout, construction, familiarity with natural building techniques)
- Social and political skills in multicultural environments
- Business and fundraising
- Teaching skills (especially how to teach others to teach (Zande, 2010))
- Life skills - the ability to thrive in challenging situations (perserverance, stoicism, flexibility, mental health strategies)
- World affairs (macroeconomics, global order, politics)
- Sustainable development (including water, agriculture, land use planning, transportation, energy strategies, etc.) (Kennedy, 2004)
- Visual communication skills - especially visual communication for (often non-literate) local partners unfamiliar with conventional architectural presentation approaches (i.e. simple drawing and modeling as a tool to share ideas. (Clark University, 1994)

The lack of such approaches in most architecture schools points to the need to develop specialized interdisciplinary programs.

Figure 5: Completed earthbag office for a children's village, Dennilton South Africa.

PUBLIC INTEREST DESIGN IN SOUTH AFRICA

The author has worked extensively in South Africa since 1993, having travelled widely and consulted on projects throughout the country during ten visits, most recently in 2012. His goal has been to create modern community-scale buildings and spaces that respect the African lifestyle but utilize locally available materials. Most of this design and building has been at Tlholego Village, a teacher training venue that focuses on permaculture, village-scale development, and community healing near Rustenburg, in the Northwest Province.

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This work has been influenced by vernacular design, with the initial structures strongly inspired by the architecture of the local Tswana people. Such experiments in neo-vernacular and hybrid design have developed into an ongoing testbed for technical and social development; a place to explore a variety of building modalities to see what might "stick" in the effort to create robust, inexpensive, desirable and easily achieved models for regenerative homestead and village development. Most of the buildings at Tlholego are built using adobe block or "earthbag" construction, additional experiments with soil cement finishes, lime and other natural building modalities.

The benefit of having access to this site for over twenty years is the opportunity to learn from mistakes and determine results from experimental design approaches, developed over many years, including several intensive residential courses taught by the author. A diverse group of colleagues and students have explored a wide range of processes, techniques, and issues in regenerative building and village design. Courses have been attended by wide variety of local, business, NGO, and government leaders. Having intensive time to work collaboratively was a useful way to not only share knowledge, but to discuss the cultural barriers to sustainable development that have persisted in South Africa since the end of the apartheid era.

Through a type of ongoing catalytic development, fully-integrated models for sustainable development continue to be developed at Tlholego. Slow prototyping over twenty years has led to a gradual accumulation of knowledge and skills that have been shared through print (Kennedy, 2002, 2004), photography, lectures and film. Long-term involvement with Tlholego has enabled "fraternal" relationships with the local people, remarkable given the level of mistrust and trauma in this region due to apartheid, poverty, HIV/AIDS and other impacts.

Future work includes a proposed design research studio course to pursue an evidence-based research agenda relevant to regenerative development needs. Students and local participants would co-create collaborative tools for design, "agonistic" spaces for engagement with community (Thorpe & Gamman), and slow prototypes" for ongoing research and development. This participatory project-based learning approach is rooted in the local cultures of the region and developed through local and international partnerships. The course would provide a unique educational experiences and support important research in regenerative human development.

CONCLUSION

Architects and other designers continue to take up the mantle of public interest design in greater numbers while new models, processes and projects useful to this task continue to proliferate. Information and social networks are more available than ever before, leading to the sharing of successful processes around the world. However, while these developments are hopeful, more efforts are needed to further activate communities of educators, students, businesses and local societies to the level needed to fully address global design issues.

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