

# Redefining Humanitarian Architecture with Complexity in Mind: Moving Toward a New Practice

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**Humanitarian architecture has become a mainstay in the social practice of architecture and has had an overall positive influence on design teaching. However, the field of humanitarian design has a tendency to oversimplify growing issues of social and environmental justice. The field of humanitarian architecture suggests to students that design can solve systemic problems, but fails to define the complexity of the systems these problems exist within. Rather than emphasizing critical analysis and deconstruction, it emphasizes trending design vocabulary. This paper establishes the basis of humanitarian architecture, the definition, and the key concepts that define the practice of humanitarian architecture, and it uses the concepts of ‘craft’ and ‘replicability’ to analyze the practice within complex systems. This analysis of the field makes the argument that incremental facilitation and deep community engagement is necessary for a successful humanitarian architecture. And in order to achieve success, a new school of humanitarian architecture needs to be developed that develops students and practitioners who are prepared to work within complexity, employing praxis.**

## INTRODUCTION

Humanitarian architecture has become a popularized phenomenon over the past decade, taking form from crowdsourced building plans to studio projects and pro-bono services. However, recently, it seems to have lost the spot light and both its financial viability and socio-cultural viability have started to crack at the seams as its community impacts are analyzed more critically. Perhaps the reduction in humanitarian architecture’s visibility is due to a more robust economy over the past few years that has shifted the focus of students back toward profit driven design, or it has become more ubiquitous within the application of socially conscious architecture in the sustainability movement. Hopefully it is in part due to a more keen awareness of humanitarian design’s impacts on local

communities and a more reflexive approach given by both designers and humanitarian aid organizations.

Several trending publications have come out in the past decade depicting the work of design activists, to name a couple: *Expanding Architecture: Design as Activism* and *Beyond Architecture: Architecture and Human Dignity*. The popularization of humanitarian architecture has been especially noticeable in the wake of recent natural disasters, such as the 2010 earthquake in Haiti. The attention to the subject is positive; it draws the consideration and services of the architecture profession to real socio-cultural, socio-economic, and socio-ecological problems. The humanitarian design phenomenon, much like the Occupy movement also begins to draw our attention to the other 98% of the built environment. The problem is, it makes us believe that the architecture and design professions can solve humanitarian crises without an expertise in development. This after all is the failure of our technocratic society and a central tenant to the growing ‘risk’ we live with<sup>1</sup>. Furthermore, the new wave of design activism leads us to believe that this is a new phenomenon with new solutions, but the ideas and conflicts of humanitarian architecture have persisted through time. This paper establishes the basis of humanitarian architecture, the definition, and the key concepts that define the practice of humanitarian architecture, and it uses the concepts of ‘craft’ and ‘replicability’ to analyze the practice within complex systems.

## DEFINING HUMANITARIAN ARCHITECTURE

Herbert Simon defines design as “devising courses of action aimed at changing existing situations into preferred ones”<sup>2</sup>. Alastair defines design as “the act of deliberately moving from an existing situation to a preferred one by professional designers or others applying design knowingly or unknowingly;” he then defines design activism as “design thinking, imagination and practice applied knowingly or unknowingly to create a counter-narrative aimed at generating and balancing positive social, institutional, environmental and or economic change”<sup>3</sup>. Using the logic of Simon and Alastair and applying it to the practice of architecture, architecture is tied to culture, society, economics, political forces, and the environment; architecture reflects the culture and traditions of a community. Demetri Porphyrios defines architecture as, “the imitative celebration of construction and shelter qualified by the myths and ideas of a given culture. Such myths might have to do with life, nature, or

mode of production of a given society”<sup>4</sup>. When practicing architecture, one is practicing art and designing the built environment, moving from existing situations to preferred ones. Architecture is both the process and the manifestation of the process. Humanitarianism elicits humanism, ethics, and justice it connects each person at the core level of human nature, just for being another human. Placing humanitarianism in the realm of architecture elicits the notion that architecture connects and creates a built environment that links people at the core, human level; it is social, just, and ethical. Therefore, humanitarian architecture is improving the welfare and happiness of a population through the art and practice of designing the built environment that the population occupies. Through this process, humanitarian architecture can alleviate suffering and transform conditions into collectively preferred ones; it acts to create a built environment that is for the betterment of society. However, within this normative view lies a central issue with humanitarian architecture and humanitarian design – it tends to be product based rather than process based and seeks outcomes rather than evolution. By placing humanitarian architecture within complex systems, we can implement more incremental interventions and learn from failure and success as we create social architecture that operationalizes the knowledge and cultures of the users, such as Christopher Alexander suggest in his series, *The Nature of Order*. This paper argues that the true form of humanitarian architecture is seen through incremental processes that build resilience within the most marginalized communities; the work of the Asian Coalition of Housing Rights is an excellent example.

#### THE CONCEPTS OF HUMANITARIAN ARCHITECTURE

Slums have to be looked at for their complexity and innovativeness; they are not hopeless, disorganized, spontaneous, and chaotic systems on the periphery of society<sup>5</sup>. Slums are sophisticated and industrious, capable of producing shelter for millions of poor families worldwide; they contain complex systems of enterprise and even act as incubators and catalysts for the individual seeking a better life<sup>6</sup>.

Buildings are manifestations of the collective. The term ‘user’ came into use in reference to welfare housing. Using the term allowed architects to have discussions about inhabitants as one, users, ignoring differences<sup>7</sup>. Lefebvre states: “The word user has something vague and vaguely suspect about it. By making inhabitants into abstractions, inhabitants can’t recognize themselves in space”<sup>8</sup>. Spatial segregation has become an inherent part of social housing. Oliver-Smith speaks to the necessity to maintain cultural association in order to place people in culturally and environmentally adequate dwellings, he adds, “successful reconstruction also involves arranging houses on the ground, which itself may be socially categorized and valued, and filling such houses with specific people who are equally socially categorized and valued”<sup>9</sup>. Architects have to use their resources wisely and help people fight alienation, only then architecture realizes the potential in the user<sup>10</sup>.

Christopher Alexander furthers the concept of the house as a concrete expression of one’s place in this world. When the family designs a house, a relation to the house is formed that is natural. Mass social housing alienates people and causes despair<sup>11</sup>. Within humanitarian architecture, human feeling and human dignity must come first, “in which the housing

process is reestablished as the fundamental human process in which people integrate their values and themselves”<sup>12</sup>. Production methods of housing in the modern world are too centralized and fail to adapt or prevent adaptation to fit the user’s needs. The building practices are controlled by businesses, government agencies, and industry. Decisions are made without the attachment to the project or being engaged in the experience of building. The production system in place defines a pattern of control; decisions are made remotely without regard to the location they impact<sup>13</sup>. People who create buildings themselves are creating buildings full of meaning and value; these are the use values they establish within their community<sup>14</sup>.

Shelter is a basic human right; “the house is man’s affirmation in space”<sup>15</sup>. When housing is created at an individual level and a community level, it provides the connection between the individual, community and culture<sup>16</sup>. In practicing humanitarian architecture, the practitioner must realize these intricacies of social-housing. She must take notice that good housing is made through the social networks, cultural capital, and resources within the population, not from outside methods of top-down intervention. Generative design, which enables adaptation through incremental growth, facilitates this type of bottom-up housing<sup>17</sup>. “When dwellers control the major decisions and are free to make their own contributions to the design, construction or management of their housing, both the process and the environment produced stimulate individual and social well being. When people have no control over, nor responsibility for key decisions in the housing process, on the other hand, dwelling environments may instead become a barrier to personal fulfillment and a burden on the economy”<sup>18</sup>. Allowing the user to become invested in their housing, through participation among other strategies, they become empowered and bring that much more success to the project. Where economic or political hindrances occur, agency can be used to lead toward transformative change.

Informal networks and linkages need to be increased within disadvantaged communities, in order to facilitate connections to resources outside of their means. Rather than just providing people with a professional design service, help them gain access to the resources that will most readily help them succeed. One successful implementation of building networking for bottom up development on the periphery of Beirut is depicted by Mona Fawaz<sup>19</sup>. Humanitarian architecture needs to facilitate a process that can address these issues. Furthermore, in establishing networks, practitioners need to understand how changes in land use and building codes affect inclusion and an individuals entrance into the city. It becomes the responsibility of the humanitarian architect to aid the users in manoeuvring the field of bureaucracy as well as providing agency in the case policies are contrary to social justice.

As a practitioner of humanitarian architecture one needs to work with the people. One needs to consider housing as a process. When housing becomes a commodity, we lose the life within the process<sup>20</sup>. Decisions must come from below to respond to local complexities and engage local knowledge rather than top-down regulatory structures. It is important to acknowledge the “initiative, ingenuity, perseverance, and hope so evident in the housing action of such a large part of the population and in the face of so many difficulties”<sup>21</sup>. The professional has to take

responsibility for the artificial, authoritarian barriers in the way. For example, take the current issues surrounding housing the temporarily homeless in the United States. If publicly funded housing is not a viable solution, how can humanitarian architecture play a role in providing sustainable livelihoods for these individuals? Projects such as Opportunity Village in Eugene, OR are demonstrable examples of this in action <sup>22</sup>.

Understanding the inherent abilities and resources within a community, the ability and ingenuity of people to self-build and create networks of resource, is essential to humanitarian architecture. Hassan Fathy taught the importance of continuing traditional trades and craft within architecture for the poor, teaching communities to build using methods relevant to their cultural heritage and tradition. Because architecture must exist in the living conditions within tradition as seen in a culture; buildings transplanted from outside become unsightly impositions <sup>23</sup>. Respecting the traditions in a building culture and maintaining the knowledge of the building craft enables one to create solutions that respond to the culture-environment relationship. A socially conscious architect should not use her services for her own glory, but for that of the society she is working in, expressing a relevant contribution to the tradition and advancement of a society's culture. Practicing these concepts enables humanitarian architecture to remain ethical and just. The ingenuity and resourcefulness of informal settlements demonstrates the ability of people to create delightful housing with little resource. It is equally important to realize that even when given the proper training and materials, the poor do not necessarily generate quality housing. Unfortunately, when given the resources and materials, many will try to copy the housing of the rich to demonstrate status, but without the proper means or methods, do so poorly. Although the New Gouna project was a failed attempt in implementing theory into practice, the lessons learned are valuable. Fathy failed to elucidate in his process the implications of capitalism on cultural evolution and the social stratification imbedded within the urban environment. This failure validates the need for more thorough systems thinking within the practice of social or humanitarian architecture. There are many pitfalls and obstacles in the way of the practical application of a theory and one has to be prepared for it.

### REPLICATION VERSUS CRAFT

With the understanding of humanitarian architecture, the difference between 'craft' and 'replicability' provides a lens to critique the current work in the field of humanitarian architecture. Craft can be seen as an incremental approach that develops a diversity of ways, providing more resilience within a system. Replicability on the other hand, such as the mass production of techno-solutions can be seen as a redundant process that lacks diversity and weakens the resilience of a system.

Craft encompasses the vernacular traditions, culture, and generative design of a population – it is an incremental process allowing for diverse outcomes. Turner states: "Genuine culture is a process of the refinement from the grass roots up"<sup>24</sup>. The craft seen in vernacular architecture, demonstrates the transformations a form has undergone through generations of evolution as it adapts culturally and environmentally, until it becomes the ideal structure for its environment. Craft additionally adds beauty to work. Within these human processes, each incremental

decision in the process of fabrication leads to a product full of life and beauty <sup>25</sup>. The process of craft is lost when something is manufactured by machinery. There is value in respecting and protecting traditions, "to break a tradition in a basically traditional society like a peasant one is a kind of cultural murder"<sup>26</sup>. It is essential for humanitarian architecture to be both culturally appropriate and supportive of the cultural evolution of its environs.

'Replicability' is the mechanical reproduction, as seen through the mass production of prefabricated housing or the car; it can be seen as creating products. Industrial production and mechanization are opposite tradition and culture. Buildings tend to be the man made capital that defines our social capital; it is the transformation into symbolism <sup>27</sup>. The state of replicability tends to be the creation of products that are consumer driven; it is the novelty-mania as Porphyrrios calls it. Lefebvre demonstrates that the repetitive nature of our industrialized and consumer driven society has defeated uniqueness, "that the artificial and contrived have driven all spontaneity and naturalness from the field, and, in short, that products have vanquished works"<sup>28</sup>. Porphyrrios demonstrates the problems that occur when systems of high-tech replication take charge. The relationship between humanism and replication is problematic; it leads to the fall of craft and the loss of the vernacular architecture of a population <sup>29</sup>. Culture and tradition is negatively affected as the accumulated knowledge from generations of building practice are tossed out; even worse yet, the ability of craft and building technology to respond to the environment and culture is lost, relying on technical experts to relay the information. An eco-social relationship within the built environment that developed sustainably now has a complete disconnect. One example is the culture loss and movement from communalism to individualism that has taken place in the Marshall Islands since the United States occupation began in the 1950s <sup>30</sup>.

Furthering the idea of 'craft' one can consider the practice of humanitarian architecture as a way to form socially regenerative architecture. Socially regenerative architecture balances the individuals need with those of the collective – creates stability and security while allowing for change initiated and accepted by its inhabitants; and encourages social cohesion, social mixing, and social inclusion. "Regenerative architecture will seek to engage human institutions in the democratic reproduction of life-enhancing places"<sup>31</sup>. Decentralization, such as the decentralization of technology, and democratization have helped slum dwellers to gain access to resources and improve their built environment <sup>32</sup>. Potentially, humanitarian architecture is synonymous with regenerative architecture, enabling the continuous enhancement of social housing. At the very least, humanitarian architecture should serve the humble everyday needs of people.

### ANALYSIS OF CURRENT HUMANITARIAN ARCHITECTURE: THE PROBLEMS OF NOVELTY-MANIA

The good intentions of architects who practice humanitarian architecture have a tendency to turn into poor implementations due to the failure to react to localized conditions and local knowledge and perhaps egotism. "Very often, images and testimonies of disaster survivors and newly homeless families in newspapers and on the television inspire

well-intentioned architects, industrial designers, and engineers to propose emergency shelters, [often produced by industrialized methods] that seek technical efficiency for rapid mass production”<sup>33</sup>. It should not be assumed that affected people will accept and occupy housing units that are provided after a disaster. If the housing does not respond to their needs, why should they use it? Misplaced intentions exemplify the need to follow an established doctrine of humanitarian architecture before being able to act. Furthermore, when systems thinking is not initiated, a failure to realize the social and economic positioning of survivors to ‘game the system’ can lead to a failure to shelter those most in need. From field studies in Haiti following the 2010 earthquake, I discovered that many individuals who had the privilege of mobility took advantage of the ticketing system many humanitarian aid organizations had for obtaining a transitional shelter. By accumulating tickets, a family could accumulate shelters. In some cases, as I observed, these accumulated shelters were used as income properties for that upwardly mobile family. Here in lies a central problem when complex problems are not assessed in the first place or in real time.

As design-build studios across architecture schools begin to enter into the field of humanitarian design, they should do so with a sense of reflexivity. Developing a curriculum that includes theory, research and design within the design process would help students to develop an understanding of complex socio-cultural, socio-economic, socio-technical, and socio-ecological issues at hand in development and enable them to develop systems thinking. Through a more robust approach to teaching and studying humanitarian architecture, we can begin to lessen the negative latency inherent within the current trend of humanitarian projects. In the same vein, current design-build programs with a social mission need to be honest and stay true to that mission.

Studio 804 is a nonprofit organization, which provides a design build studio for graduate students in the school of architecture at the University of Kansas. Studio 804, has been criticized for emphasizing the priority of the designer’s vision rather than the needs of the client. These projects tend to demonstrate contemporary architecture trends and advanced technologies that enable innovative projects to be affordable. Many of their projects are purposed in the recovery of Midwest towns ravaged by tornadoes. Putting Studio 804’s work through the lens demonstrates that their projects tend to be high-tech impositions on society and are not always responsive to the communities needs. Contemporary architecture may be attractive at first, but what are the long term consequences? “Architecture has nothing to do with ‘novelty-mania’ and intellectual sophistries”<sup>34</sup>. Studio 804’s claim to ‘affordable modern’ seems to be an assumed reality of what is best for a community. Seen through the established lens of social architecture, their work is not responsive to the community and is not a responsible form of social architecture. Another design-build studio that demonstrates some of these same issues is the Oregon BILDS studio at the University of Oregon, while pushing the envelope of affordable high performance and passive housing, it fails to meet the direct need of affordable housing, a key tenant of its mission.

The Building Sustainable Communities (BaSiC) Initiative, another organization that facilitates student, design-build projects demonstrates another problem of the current state of humanitarian architecture.

The BaSiC Initiative is an academic learning program that evolved from a University of Texas foreign study program in Mexico <sup>35</sup>. The BaSiC Initiative demonstrates issues that surround similar organization, including Studio 804, the Rural Studio (University of Auburn), Oregon BILDS and many more. In the schematic design and design development phase, the programs demonstrate the successful use of participatory or collaborative design through the use of charrettes and open-door policies, but they tend not to involve the community or user-clients in the finalization of designs, construction, or management of the project. Alexander, Chavez, Fathy, Turner, & Ward show there is a value in teaching the user skills to construct, renovate, or at the very least participate in the production of housing in order to create a more affordable and sustainable process. Even if this process clashes with the current regulative standards, the organization should find a way to mitigate the concern. Furthermore, these organizations tend to be more concerned with the empowerment of the student through humanitarian architecture than the empowerment of the community or the end users. It is important for the students to experience architecture as a cultural activity, but it is more important for humanitarian architecture to help the community, reifying their culture and exemplifying the traditions and resources within. The humanitarian architect must be humble.

One last issue with the state of humanitarian design is ‘soft design’. Many of the solutions tend not to be ‘real’. There is a need to look in depth at the root of the problem and not just graze the surface. Many so-called humanitarian architects are guided by modernist faith in the emancipatory properties of science and invention. Just as David Brooks had it wrong with the problems of Haiti, and why a natural disaster is not in itself a disaster with out the societal ramifications of vulnerability <sup>36</sup>. The failure to recognize individual assumptions of foreign intervention is demonstrated in the post-disaster recovery of Haiti.

We need to house the poor in improved conditions, conditions that improve their health and wellbeing and increase the use value of the established housing, increase resilience and lead toward sustainable livelihoods. Participatory design is not always successful, especially when dealing with often traumatized and unqualified, low-skill workers. In these cases it will be necessary for an expert in the generative process of design and development to lead the project from the top-down <sup>37</sup>. Move away from high tech prefabrication, mass production to housing by the people. “Instead it means that real decision making power over design, planning, and financing and management of the project form individual users must form part of that participation” <sup>38</sup>. More recently this has developed into what is termed owner-driven approach or a user-driven approach in which agencies provide housing finance and technical expertise and the rest is up to the owner. You need to develop social and cultural capital. Provide housing that the person is ready to take ownership of, can afford and will be able to maintain

#### **CONCLUSION: MOVING TOWARD A NEW PRACTICE**

In order to understand what will bring health, safety and welfare, one must have an understanding of the community they work within. Ask the question: ‘What do you know?’ not ‘What do you want?’. “Why are the ‘problems’ so universally defined in terms of what people ought to have,

instead of in realistic terms of what people could have?”<sup>39</sup>. There is an additional set of skills, experiences, and education that are necessary to move forward the practice of humanitarian architecture in order to mitigate vulnerability in the affected population. Humanitarian architecture implies agency, linking it to activism in order to bring about change and social, cultural, and or political transformation. In improving the health safety and welfare of a population, humanitarian architecture must be respectful and responsive to the cultures and customs of societies and use the collective knowledge and processes of the society in order to empower the community. “What is needed is an architecture of change – an architecture that moves the field beyond the design of buildings and toward the design of new processes of engagement with the political forces that shape theories, practices, academies, policies and communities”<sup>40</sup>. A new school of thought is under way, much in the way Turner suggests a new school of the built environment, and we need to create a new department of humanitarian architecture under this school.

In conclusion, humanitarian architecture is a process with the purpose of helping the lowest common denominator of the population rise up from the bottom-up, providing the increase in resilience and sustainable livelihoods through improving the built environment. It works from within these communities and fosters their culture, tradition, abilities, and resources. Humanitarian architecture requires a new set of practitioners who are trained in the proper concepts, are humble and capable of motivating a community. Possibly a new school of the built environment is under way that will facilitate the education and growth of humanitarian architecture. If humanitarian architecture is to be pursued by studios, it would be prudent to develop a concentration, minor, or a parallel major in order to develop students and practitioners who are able to apply systems thinking and implement praxis.

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