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A collaborative approach to architecture

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The 1965 exhibition Architecture Without Architects, shown at the Museum of Modern Art, and the accompanying book Architecture Without Architects: A Short Introduction to Non-pedigreed Architecture by Bernard Rudofsky, provided a unique view into what Rudofsky defined as “communal vernacular,” “anonymous,” “spontaneous,” “indigenous,” “rural,” “non-formal,” “non-classified,” or “non-pedigreed” architecture. The focus of the exhibition was on architecture created by anonymous, untutored builders who used their good sense to handle practical problems in a synergetic relationship with the environment, implicitly criticizing the narrow orthodoxy of a discipline preoccupied with “architectural nobility” and the
inspiration. In architectures without architects, the inhabited environments are inspired and directly shaped by their inhabitants.[1]

Not long before the exhibition, John Habraken, a Dutch architect, proposed a model that provided a platform for soliciting the participation of users and residents in the process of building mass-housing projects. In this model, the physical structure of the buildings was conceptually separated into support components and infill components. While the supporting infrastructure would be provided by the state, the infill components were envisioned as housing units that people themselves could build on top of or in the middle of the provided infrastructure (supports: An Alternative to Mass Housing, 1961). Habraken defined the key concept of a support structure as, “a construction which allows the provision of dwellings which can be built, altered and taken down, independently of the others,” and that “is built in the knowledge that we can not predict what is going to happen to it.” Hence, he suggested, “the more variety housing can be assumed within the support structure, the better,” promoting an indeterminate design that allowed for a serendipitous outcome once the framework was activated by the action of its intended inhabitants inserting their needs, desires, and preferences to customize it.[2]

Habraken seems influenced to some extent by the architectural discourse of the megastructuralists, and his model can be situated within a collection of ideas elaborated upon by radical architectures of 50s, 60s, and 70s. For example, Constant Nieuwenhuys’s New Babylon (1956-78) artistically explored a radical, utopian, city composed of transformable megastructures interlinked across the earth, providing large-scale, connected and conditioned interior spaces that were open to endless modifications by the users. Yona Friedman’s Mobile Architecture (1958) also made use of megastructures, seeking to empower the user with reconfigurable structures that could sit within the floating points of the “artificial topography” of his Spatial City, or hover above the ground on a minimal number of columns. Buckminster Fuller similarly emphasized the crucial role of the occupant in the design process when he introduced the experimental field of Synergetics (1975) to study total-system behavior.

Over a decade after Architecture Without Architects was first published, Christopher Alexander and his co-authors of the 1977 book A Pattern Language provided an “open-source” methodology for giving people a say in designing their own environments through the use of 253 patterns, or working documents that could be mixed and matched, adjusted and supplemented as needed. Each pattern both described an environmental problem and provided the core of its solution, creating an infinite variety of combinations of multi-layered problems and their corresponding multi-layered solutions.[3]

In a way, all of these alternative ways of thinking about designing built environments are criticizing a centrally planned urbanism favored during the decades following World War II. They echo Jane Jacobs’ critique of those modernist planning policies as destroying inner-city communities by creating dysfunctional settings that ignore local details and human-centered considerations in favor of the “big picture” envisioned by master planners and architects. These plans were typically executed in a top-down approach based on the principles of maximizing vehicular speed and building density, even at the expense of the residents’ quality of life. As a response, the vision of an architecture without architects and an urbanism collaboratively shaped through a pattern language; or the dualistic model of a centrally provided infrastructure filled in by the individual contributions of citizens, promoted a bottom-up paradigm and an innovative way of involving a city’s inhabitants in conceiving, constructing, and repairing their city.

Unfortunately, although inspiring as an approach in addressing the shortcoming of the modernism’s top-down paradigms of city building, and going back to a timeless way of building, these approaches have failed to revolutionize the way we build cities. There is a revealing sentence in the Oregon Experiment by Christopher Alexander, where after advocating for participation he states: “Participation will create chaos.”[4] And, in his most recent book, the Nature of Order:- “the idea of involving users in the discussion, hearing their conflicting visions, trying to reconcile opposing points of view-can become a political and administrative nightmare.”[5]
However, the past few years have demonstrated how new technologies can allow an unprecedented number of people to collaborate. Consider how during the series of 2011 events dubbed the “Arab Spring,” the combination of Facebook, Twitter, YouTube, and Foursquare drastically changed both the political landscape of the Middle East and the global understanding of resistance and resilience. When the streets of Cairo erupted in protest, president Mubarak’s government shut down the country’s Internet service and mobile-phone system in an attempt to control the situation. However, a rich ecosystem of blog posts and Facebook and Twitter conversations continued to bring together millions of people to continue the ultimately successful uprising. During Tunisia’s “Jasmine Revolution,” the protest organizer Slim Amamou used the mobile app Foursquare to alert his followers of his arrest, resulting in an eruption of urban unrest. In both cases, citizens used new Internet platforms and new applications for their ubiquitous mobile phones to shift resources back and forth from cyberspace to “cityspace” in a bottom-up organization of resistance.[6] In a different socio-political setting, the very same digital tools were used by the Occupy movement to orchestrate large-scale protests in major U.S. cities in 2011. It is therefore logical to ask: could these very technologies have an impact on city building? Could they lead to a more democratic, bottom-up approach to urbanism?

While it might be too early to get a definitive answer, we would like to review some reasons why we believe this might be the case. First, there is the issue of information. In order to address urban problems, citizens must have access to information that will allow them to make well-informed daily decisions about how to effectively use resources and navigate their surroundings, as well as engaging in the decision-making processes of conceiving, constructing, and managing their environments. New Information and Communication Technology (ICT) are making this possible to an unprecedented extent. Real-time traffic information allows citizens to make mobility decisions; location-specific information about cultural and commercial offerings allows them to decide how to best navigate the landscape of urban opportunities; real-time information that cross-associates their individual carbon footprints with pollution levels can effectively impact their energy consumption, and the list goes on. To this effect, democratizing access to urban information – as it is happening with open data initiatives all across the world – allows citizens to participate in optimizing how the space of the city is used.

One example of engaging members of a diverse community in ICT-enhanced urban optimization is the LIVE Singapore! project created by MIT SENSEable City lab. LIVE Singapore! is an open platform for the collection, elaboration, and distribution of real-time data on urban activity. On one hand, LIVE Singapore! closes the feedback loop between people moving in the city and the digital data collected across multiple networks that reflect their actions. Giving people visual and tangible access to real-time information about their environment enables them to make decisions that are more in sync with what is actually happening around them. On the other hand, this platform is not aimed at one single application. Instead, it resembles an informatics ecosystem within which a community of developers can build multiple applications, extracting new value from real-time data.[7]

Second, ICTs can facilitate innovative solutions to urban problems by leveraging the culture, contemporary practice, and well-established models of user-generated, content-sharing and collaborative, knowledge-production platforms like subject-specific open forums and wikis. This approach is not new to design: one existing model is OpenIDEO, an online social platform launched by the technological design company IDEO.

Since August of 2010, OpenIDEO has actively solicited the involvement of a global community of designers and the public in important social projects.[8] The platform introduces several challenges, each tackling a well-defined problem area in the field of designing improvements in the quality of human life, while taking into account the limitations of real-world conditions and concerns about environmental impacts. For each challenge, it offers room for all interested parties to directly contribute ideas or relevant information that may inspire other designers. The underlying force of this and other crowdsourcing platforms is the fact that
an active, globally connected crowd can outperform the internal design teams of professional, technology-based “innovation” companies. The goal is not to promote one model over the other, but to orchestrate collaborations amongst teams of technological experts, innovation companies, venture capital startups, academic research and development institutions, and the members of a broader community of socially pro-active and technologically savvy individuals.

Yet, in promoting various degrees and forms of user participation, bottom-up urbanism is not solely focused on democratizing access to information or providing a platform for collaborative innovation, but also on crowdsourcing information about the dynamics of the city to address the urgent need for more egalitarian participation. Bottom-up urbanism can introduce a paradigmatic shift in how we design, build, maintain, and inhabit our cities. Conceptual forerunners like Architectures Without Architects utilized the genius of the crowd using elementary models of knowledge sharing. Now, modern online platforms for collaborative idea-generation and sharing, such as the Open Architecture Network launched by Architecture for Humanity, can transform architectural design from copyrighted phenomena into the property of the Creative Commons. This means that anyone can access blueprints and design schemes for each and every space within the city, using interactive software applications, relational data, and parametric inter-connectivity.

These collaborative networks can also provide a platform for people to share how they receive, evaluate, and critique a particular design for the city they live in. The same model can also be deployed to create new, collaborative paradigms for funding urban/infrastructural projects through digitally mediated micro-donations, as well as envisioning ecologies of mass-ownership, or mass-authorship for large-scale urban initiatives and projects.[9]

From democratizing access to real-time urban information, to providing cyber platforms that allow people to participate in addressing and solving urban challenges, to crowdsourcing the collection of information about how the city operates and is used, we believe that the coming years might be full of promise for the “bottom” up paradigm of how our cities are planned, conceived, built, inhabited, managed, and restored or repaired (as in the case of natural disasters or civic conflicts). In short, a continuous and innovative re-programming of the built environment by its own inhabitants.


[7] For more information on the project, please visit the project website at http://senseable.mit.edu/livesingapore/

[8] For more information on the platform, please visit it at http://www.openideo.com/

[9] Examples of such platforms already in operation are www.sponsume.com/ and www.kickstarter.com/, which both allow their users to sollicit funding and support for the their projects by capitalizing on the