

# Best of Both Worlds: Prefabrication Meets Adaptive Reuse in Streets of an African Metropolis

## FLIGHT FORWARD<sup>1</sup>

This paper examines the theoretical framework for Librii, a library developed for Accra, Ghana, which is currently moving from design to construction. The project is an unapologetic agent of globalism that captures and embraces the speed and tangled complexity of the African metropolitan condition in the 21st century. The architectural tactics of our team combines the efficiency, speed, and glamor of prefabrication with the grit, flavor, and resilience of adaptive reuse.

The project has gone through a prolonged period of incubation, including rigorous academic interrogation, professional documentation in architecture and MEP systems, and creation of a business model that strategizes for locally sensitive scaling-up. Indeed, the library in this case is understood – as it has been historically - as a physical and psychological entity formed by culture within a social landscape. A generic sandbox of tools and opportunity dropped into one of the most protean environments on earth: the African street.

The project's ambition is to be experimental and provocative. Providing a library with unprecedented quality of access to the global pool on knowledge is the starting point. The project will only prove successful if it hurdles past access and moves into the more and fantastic realm of production. Is it possible for a library to open empty and auto-construct a collection? Can generating local content for a local audience be profitable and ethical? How can architecture achieve this? How can physical space transcend the functional in favor of the performative?

We have begun down the path. The planning is done and construction has begin on campus this summer and we plan to ship to Ghana in the fall, where our prefabricated component will be mashed-up with a former nightclub, flipping an old piece of the city fabric with a new opportunity for the collection, storing, sharing and generation of knowledge.

## LIBRII: ANTICIPATORY DESIGN

Librii is a network of low-cost, digital libraries designed specifically for Sub-Saharan Africa. This concept is loosely based on the Carnegie endowment, but makes strategic updates to reflect our own epoch. Specifically, Librii shifts from a public to

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franchise model, incorporates a revenue-generating business plan, balances digital and physical offerings, and stresses local partnerships. Librrii offers users access to the tools of digital production, including powerful computers, up-to-date software, and the fastest available Internet connection.

While being mindful of the digital, Librrii is fundamentally physical. It is a vibrant place for collaboration and the exchange of ideas. Librrii's goal is to ignite the hearts and minds of its users; to be a space of endless possibility; to catapult the self-actualization of communities and individuals alike.

The pain point addressed here is the collision of high population and low connectivity. While African broadband mobile access has soared (currently 19% penetration)<sup>2</sup>, fixed access has remained stagnant (currently 0.05% access). This is a problem because in order to contribute substantive content to the web, you need to go beyond access to smart phones.

#### **Population and Internet Usage Facts**

5.9 BILLION = Population of Less Developed Regions of the World (UN)

1.2 BILLION = Population of More Developed Regions of the World (UN)

1.1 BILLION = Population of Africa (UN)

35% = Percentage of Africans ages 15 - 35 (African Union Commission)

21% = Percentage of Africans with basic access to Internet (Internet World Stats)

19% = Mobile broadband penetration Africa (International Telecom Union)

0.05% = Fixed broadband penetration Africa (International Telecom Union)

It is important to note that no one asked for this project, at least not explicitly. Instead, Librrii traces its lineage through the history of radical anticipatory designers, such as Jonas Salk<sup>3</sup>, Buckminster Fuller, or Cedric Price. These design scientists carefully studied the social, cultural, and political landscape and identified moments where their efforts could be leveraged towards the greatest possible impact.

#### **CRITICAL THEMES IN PLAY**

From the outset, Librrii has taken a view of architecture not only as the skillful manipulation of form, but as a way of thinking about all issues connected with the project.<sup>4</sup> In the spirit of an elevated academic discourse, it is fitting to delve into the critical themes that Librrii is taking on. Many of these topics originate in realms typically foreign to a discourse on building, but have been necessary to address simply because the project deals with perhaps the most technologically radical, politically turbulent, and culturally uncertain typologies that exist: the library.

The first theme to examine, which operates at the absolute heart of the project, is *dignity*. By creating a space that offers users access to the tools of knowledge production, Librrii seeks to create an atmosphere where this quality can be reinforced constantly. One recent anecdote offers a perfect insight into the gravity of dignity's role in this project:

Two Librrii team members are at a patisserie in lower Manhattan, engaged in tense negotiation with Gilonne d'Origny, international strategist for On-Demand Books. After a well-rehearsed project pitch by Librrii, which was concluded with an explanation of the content generation challenges, Gilonne, who until this point has been extremely measured, leans in. "Your first challenge must be to create education materials," she states with absolute firmness. "You don't understand the mindset of a post-colonial culture, where all educational materials come from their former oppressor. If they could produce their own textbooks and write their own history,

it would be a CRY FOR FREEDOM!” With that a delicate French hand comes down hard on the wood table, briefly unsettling the entire café.<sup>5</sup>

This story transitions perfectly into the important theme of autoconstruction, as most notably championed by John Habraken<sup>6</sup> for the last fifty years. The premise is simple: the complex and technically difficult elements of a building (i.e. structure, plumbing, electrical, etc.) are generated by professionals while the non-load-bearing and finish elements are constructed by users themselves. What emerges in an architectural scenario has a noticeable consistency of the underlying formal elements, punctuated by layers of bizarre and idiosyncratic acts of personal expression. Librii is experimenting with autoconstruction not only with built form, but also with the very creation of the libraries collection. After all, the term “library” is by definition schizophrenic, referring both to the building and the collection indiscriminately.

A third theme that is inescapable in any discourse on the contemporary library is the relationship between digital and physical forms of creating, expressing, capturing, storing, and curating information. With perspective, we can appreciate that we are alive at the moment in time when millennia of culture embodied in physical objects is crashing haphazardly into exponentially – almost infinite - volumes of data generated in the smooth and luxurious realm of the electronic. After a period of sloppy public discourse about the disappearance of the book (and by extension the library), the conversation seems to have accepted that physical versus digital is a false dichotomy. Society is now unable to escape both, and twenty-first century life is a perpetual and somewhat exciting fog, where the cloud is an ever-present and seemingly permanent layer on our experienced reality of life. Librii welcomes this view, and is less concerned about perceived crisis and more concerned about participation in the future African-generated portion of the Internet.

A return to context is a fitting conclusion to the discourse on themes. TIA (literally This Is Africa) is a saying that westerners traveling or working in Africa hear from time to time, especially when encountering inconveniences such as power black outs, corruption, or old technology. At worst, it is shorthand for the most negative stereotypes associated with the pan-African market: dirty, tardy, and disorganized.<sup>7</sup> The fact that even amongst communities of ardent African optimists this phrase stubbornly persists in the pejorative. This condition presents itself most plainly in the African metropolis. For example, in twenty years, Lagos grew from 2 to 7 to 12 to 15 million in population. It is currently estimated to be at 21 million and remains the second fastest growing city in Africa.<sup>8</sup> This occurred, by and large, without the benefits of commensurate infrastructure, urban planning, and consistently applied rule of law. TIA.

As a hyper-optimistic endeavor, Librii sees an opportunity to offer a strong counter-argument to the phrase. This is Africa can refer instead to works of cultural production generated by the libraries themselves. Books, films, songs, websites, apps, and entire companies generated by Librii users demonstrate the drive, creativity, and ingenuity of urban Africa. Here, the informal can turn the tables by removing barriers of entry to publication and allow for more democratic participation in global information systems, which, incidentally, correspond to the current state of the Internet’s evolution.

#### **OCTOBER 2014**

When the WORKING OUT conference was originally called in April 2014, there was a sense of confidence that the Librii team would offer thrilling reports of work taking

root in the field and that the performance metrics carefully engineered into the business plan would already be rolling in. This is not the case. Librii, like so many related projects in the social design space, constantly falls for false summits – thinking the end is at hand only to face the daunting realization the trail’s climax lies much, much further up the mountain. Nevertheless, we march on with an intoxicating mixture of desperation, delirium, love, and faith in architecture. By act of contrition, here are some updates:

Librii’s technical core, housed in a retrofitted forty foot high-cube shipping container, has reached a state of substantial completion and awaits final transportation and deployment to Ghana. It was a costly decision to prototype in the US, but ultimately one that the team feels was critical. The first-hand experience of specifying, purchasing, retrofitting, and moving (both by truck and boat) a shipping container is illuminating. The design was modified to the point where little in the way of precise alignment can be found between the 100% construction drawings and the as-built set.

Internal capacity building remains a major challenge. Librii is a company and the founder/executive director/architect in this case has backed into the role of full-fledged social entrepreneur. There is a vast skill set that exists far outside the bounds of a NAAB accredited curriculum that needs to be cultivated. Not least among these skills is raising funds, which is occupying the majority of Librii’s focus at the moment.

There is also an interesting design challenge that is unfolding on the digital side of the library. Precisely what users encounter when they log into their Librii account, either on-site or remotely, will have a tremendous impact on the success of the overall library proposition. This experience needs to be multi-faceted as it is the hinge point that is actually touched by all stakeholders, from users to employees to advertisers to hackers. Librii views this as an indispensable piece of architecture inseparable from the physical identity of the library and much more complex, as it relies significantly more on autoconstruction by qualified users. Luckily, we have fantastic consultants.

## ENDNOTES

1. Nod to Koolhaas in *What Ever Happened to Urbanism?*, from: S,M,L,XL, OMA, (with Bruce Mau), The Monicelli Press, New York, 1995, pp. 959/971.
2. “The World in 2014: Facts and Figures,” last modified on August 22, 2013, <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2014-e.pdf>,
3. Fuller’s epic poem, *No More Second Hand God*, opens with a flowing tribute to Salk as an exemplar of Anticipatory Design Science.
4. In his 2000 Pritzker Prize Acceptance speech, Koolhaas makes an argument for architecture to liberate itself from strictly building – a challenge that resonates strongly with the Librii team.
5. This meeting between the author, John Clemow, Director of Operations for Librii, and Gilonne d’Origny, International Strategist for On-Demand Books, took place on September 16th, 2014 in New York City.
6. N. John Habraken, *Supports - An Alternative to Mass Housing*, London 1972. User Participation. The Hague 2000; in combination with: Two-Components-Approach - Structure and Coincidence.)
7. “TIA – This is Africa,” last modified September 27, 2011, <http://www.thoughtleader.co.za/archbishopsfellowship/2011/09/27/tia-this-is-africa/>
8. Information on demographics on Lagos varies widely. The figures cited here are from “Lagos,” Wikipedia. <http://en.wikipedia.org/wiki/Lagos>. Accessed October 8, 2014

## CONCLUSION

As Librii is still at its outset, it seems comical to draw conclusions. Furthermore, since architecture itself is still coming around to the unlimited potential and breathtaking need in the social entrepreneurial realm, it seems more appropriate to remain focused on the salient questions than pretend to have answers. However, one might pause and closely consider this moment. As this paper is submitted, presented, and discussed, a hideous Ebola pandemic is sweeping through West Africa. Librii’s chief engineering officer has been stationed in Accra throughout the summer and has reported that scores of NGO workers from the affected countries have relocate to Ghana. When asked how Ghana will respond if the disease hits he responded unequivocally, “This place will fall like a house of cards.”

Over the last few years, as Librii has germinated, education and access to information have been viewed as necessities for self-actualization and full participation in the global economy. The transnational outbreak of a disease, however, teaches us that access to information can quickly become the difference between life and death for large populations of people and potentially the stability of entire governments. Librii looks at this situation and remains steadfast in the belief that design can and should assert itself in an anticipatory way to yield positive impact on the individuals and communities it serves.