

# LIBRARIES ACROSS AFRICA DOCUMENTATION

## GlobalGiving Grant Proposal

An extended version of the materials posted to the GlobalGiving website that had to be condensed due to spatial constraints.

## Urgent Evoke Proposal

This is the original document submitted to the World Bank as part of *Urgent Evoke*, experimental online game and project creation and funding scheme.

# LIBRARIES ACROSS AFRICA

## GLOBALGIVING GRANT PROPOSAL

### Summary

The mission of Libraries Across Africa (LAA) is to radically accelerate the construction of public libraries in Africa in order to provide information access, for the largest number, at the least cost. LAA was launched in 2010 with seed funding from the World Bank Institute.

### Project Needs and Beneficiaries

For those in the developed world, it is easy to fall into the trap of believing global connectivity is here: the World Wide Web has made it possible for anyone, anywhere to access anything. In reality, however, that is not the case. In 2010 just over 26% of the world's population were classified as Internet users, with conspicuously low percentages of Internet penetration in Africa (8.7%).

The long-term goal of LAA is to coordinate the construction of thousands of new libraries throughout the African continent. Why libraries? We believe libraries are critical spaces in the public domain and that by providing the ability to access, share, and create information we give entrepreneurial-spirited individuals important tools for bettering themselves and their communities.

In order for the project to proceed, many important questions must first be answered. In an effort to both bound resources and create a series of discrete, achievable objectives, the project is envisioned in three phases:

Phase 1: Project Planning - Foundational data is gathered and processed so that major decisions can be made about the best course of future development.\*

Phase 2: Pilot Project – Construction of one pilot library in Africa and collection of real feedback from the field to gauge whether the prototype is indeed proof of concept.

Phase 3: Full Rollout – Secure major funding and begin answering grant requests from communities seeking libraries. Goal is to produce 5,000 operational libraries over the next ten years.\*\*

***\*This GlobalGiving fundraising challenge is focused exclusively on providing funds for Phase I. Funds donated to the project at this point will not be used for the immediate construction of buildings, but rather for developing a clear understanding the right kind of buildings to construct.***

***\*\*This project is admittedly ambitious, but not without precedence. One hundred years ago the Carnegie Library Endowment built over 2,500 libraries, including roughly half of the US libraries at that time. This project aims to learn important lessons from the Carnegie model, while incorporating contemporary building strategies to accelerate production.***

### Activities

For Phase I, the project needs funding for a study that will serve as the basis for developing a prototypical library design. The contents of this study will include:

- **Research (\$3,000):** Analyze current statistical data of existing libraries in Africa, profile stakeholders, address major trends shaping the contemporary library, and identify a potential site for a pilot project. Investigate how people in various African nations historically hold and pass on information, what kind of an approach would honor those traditions, how those trends differ in regionally, and how that affect the concept of a 'library'.
- **Travel (\$4,000):** Travel to site of pilot project, gather necessary information for final design, and establish network of local partners. Emphasize integration into local resource networks in order to maximize community investment and minimize reliance on top-down funding.
- **Prototype Design (\$3,000):** Schematic design of project prototype. Even at this stage of the process, it is understood that the building must be a trigger for many things. The design produced in this phase will be the primary piece of evidence for soliciting funding for construction of a pilot library.

### Funding Information

The budget for this study is \$10,000. All funds will be used only for expenses related directly to the development of a project plan.

## Why this Project is Important

### Potential Long Term Impact

The long term impact of libraries is intuitively great, but difficult to quantify. However, the impact of your donation will serve two tangible purposes. First, the results of this study will be made available to the library science community to further the dialogue regarding these topics. Second, the plan produced with your help will serve as the basis for securing the significant capital required for the actual construction of a pilot library.

### Project Message

"Africa's best hope for diversification into the high-value sectors is a massive acceleration in the use of IT. I truly believe that the rapid expansion of Internet access in Africa could transform how Africa trades, learns and holds political power accountable."

--- Gordon Brown speech to African Union leaders, July 24, 2010

"There is no energy crisis, food crisis or environmental crisis. There is only a crisis of knowledge."

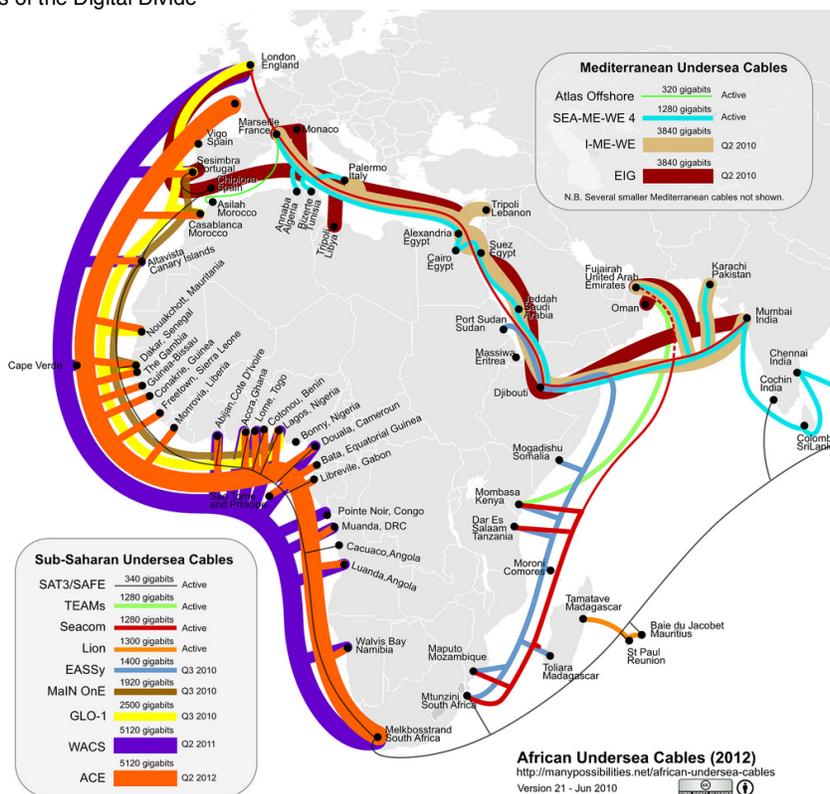
--- R. Buckminster Fuller

## Who is Running This Project

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## Where this Project is Located

Africa – Frontiers of the Digital Divide



URGENT EVOKATION

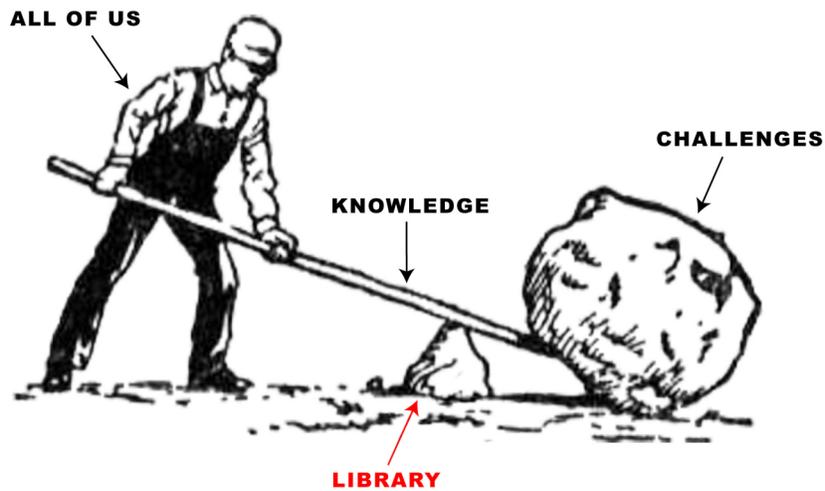
**Libraries Across Africa:**

Information Access, for the Largest Number, at the Least Cost

by

David Dewane

A PLAN OF ACTION FOR  
SOCIAL INNOVATION SUBMITTED  
TO GAIN FURTHER SUPPORT  
FROM THE EVOKE NETWORK AND  
THE WORLD BANK INSTITUTE



MAY 2010

## *Executive Summary*

### **Place: The Library**

Libraries, by definition, are collections of sources, resources, and services AND the building in which these are housed. Additionally, libraries serve as a critical piece of the public domain; a symbolic space that accommodates our persistent desire for collectivity. The evolution of information technology, specifically the Internet, has allowed the *idea* of the library, which is rooted in free information sharing, to grow beyond its physical constraints and participate in the expanded field of information being created, organized, and shared online.

### **Challenge: The Digital Divide**

It is easy to fall into the trap of believing global connectivity is here: the World Wide Web has made it possible for anyone, anywhere to access anything. In reality, however, that is not the case. In 2009 just over 25% of the world's population were classified as Internet users, with conspicuously low percentages of Internet penetration in both Asia (19.4%) and Africa (6.8%). The EVOKE network itself is a useful example of the constraints posed by the digital divide, and reinforces the case for widespread proliferation of public libraries, which serve as key access points to the bank of online knowledge while simultaneously serving as agencies culture.

### **Idea: Libraries Across Africa**

This section will outline a vision for a new type of library focused on staging a relationship between *both* the incredible array of resources available online and the physical building that embodies the local culture. The attempt will be to offer organized access to the greatest population, at the least cost. The basic tenants of the Libraries Across Africa are: 1) to provide zones of information access (e.g. libraries) that combine wide-spread knowledge sharing with local insight in an effort to trigger the discovery of solutions to immediate and compelling problems through 2) the establishment of structures that are a combination of standardized, technologically equipped cores and auto-constructed bodies.

### **Money: The First \$1000**

If this project were to receive funding I would propose using the first \$1000 in teambuilding, establishing a web presence, preliminary fund raising, and filing for 501c3 non-profit status in the United States.

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# *1. Place: The Library*

Libraries, by definition, are collections of sources, resources, and services AND the building in which these are housed. Additionally, libraries serve as a critical piece of the public domain; a symbolic space that accommodates our persistent desire for collectivity. The evolution of information technology, specifically the Internet, has allowed the *idea* of the library, which is rooted in free information sharing, to grow beyond its physical constraints and participate in the expanded field of information being created, organized, and shared online.

## **1.1 Libraries as Agencies of Culture**

What a library is depends on what it does: it is a social enterprise, a physical infrastructure, a symbolic site of collective memory.<sup>1</sup> Historically, libraries were thought of as places for contemplative learning through access to books. However, the physical infrastructure of the contemporary library is now greatly expanded by its connectivity to the global community and what was once a closed resource within a community is now an open portal to a large and vibrant knowledge ecosystem. In other words, the growth of the digital increased the scale of our collective social enterprise. Nevertheless, the physical buildings remain, and each is a material representation of the form our culture takes within the civic landscape.

### 1.1.1 Library as Vehicle of Social Mobility

As repositories for information, libraries are invaluable resources for individuals committed to advancement through self-education. It was for this reason that the great American philanthropist Andrew Carnegie funded the construction of more than 2,500 libraries at the outset of the twentieth century. When asked why he focused on libraries, Carnegie would recall a story from his youth, when he was a child laborer at a mill in Alleghany, Pennsylvania. It came to pass that a prominent local citizen generously opened his personal library to the working boys of the town and with it provided access to “the precious treasures of knowledge and imagination through which youth may ascend.”<sup>2</sup> Carnegie took full advantage of this opportunity and saw it as foundational in his rise out of poverty.

Now more than ever the library bears the promise of knowledge and imagination. Physical collections are cheaper and easier to build, the range of materials continues to grow

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<sup>1</sup> Augst, Thomas, “American Libraries and Agencies of Culture.” In *Libraries as Agencies of Culture*, ed. Thomas Augst and Wayne Wiegand. (University of Wisconsin Press: Madison, 2001), 5

<sup>2</sup> Carnegie, Andrew. *Autobiography of Andrew Carnegie*. Open Source book: BiblioBazaar 57

exponentially, and foundational resources are available in virtually every language. Additionally, web connectivity offers access to incredible resources that can either be accessed virtually or downloaded and turned into physical volumes. Noteworthy examples are sites whose content focuses on education. The Massachusetts Institute of Technology's OpenCourseWare<sup>3</sup> was a pioneer of online higher education and we can now find a range of online degree programs offered by a wide range of universities. The BBC now offers free primary and secondary level educational resources<sup>4</sup> in addition to free language courses.<sup>5</sup> *Connexions* is a free website that provides user-generated, open-source material for textbooks that is customizable and allows users to quickly "create, rip, mix and burn" coursework without fear of copyright violations.<sup>6</sup> While it is true the majority of existing content is in English, this base provides a template awaiting translation, which may even be automated in the near future. Additionally, as web connectivity spreads more new content is being generated in a variety of languages.

### 1.1.2 Women, Minorities, Children, and Migrants

Unlike other modes of educational advancement, such as higher learning and trade schools, libraries offer a free and open forum to any individual interested in absorbing information on a subject of interest. In this sense, public libraries have been a particularly important resource for women, minorities, children, and migrants. For those of limited economic means, libraries have also come to represent places of free Internet access, which is now a given in most libraries of the Organization of Economic Co-operation and Development (OECD)<sup>7</sup> member states.

## **1.2 The Changing Library**

As a building type, the library needs to change. The approach of the previous generation, predicated on the book as the dominant means of communicating information, is a model that is rapidly becoming outmoded. What we currently understand as the book - a written or printed work, usually on sheets of paper fastened or bound together within covers - is far from dead. However, its supremacy is crumbling, and with it an antiquated spatial logic. A new array of media, mostly digital, is being offered to the public as alternative means of communicating information. Compared to the book, these new forms of media are radically different in their

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<sup>3</sup> <http://ocw.mit.edu/OcwWeb/web/home/home/index.htm>

<sup>4</sup> <http://www.bbc.co.uk/northernireland/schools/index.shtml>

<sup>5</sup> <http://www.bbc.co.uk/languages/>

<sup>6</sup> <http://cnx.org/>

<sup>7</sup> The OECD is an international economic organization of 30 countries. Most OECD members are high-income economies with a high Human Development Index (HDI) and are regarded as developed countries. The identification of OECD will be used in place of the dubious term "western."

approach to creating, storing, and accessing knowledge. Likewise, those accustomed to new forms of media have an alternative relationship to that knowledge. Where the library of the physical book was a place of contemplative learning, the library at the outset of the digital age is one where users come to aggressively reconstitute the sea of data they're immersed in. In other words, the contemporary library is an environment deeply concerned with the activity of *knowledge production*.

### 1.2.1 The Frontiers of Information

At a cognitive level, the process of acquiring knowledge is network-based, requiring a complex mix of perception, learning, communication, association, and reasoning. Contemporary advancements in telecommunications are leading to a radical overhauls for each of these inputs and we now have fundamentally new ways to create, disseminate, and exploit knowledge. The potential of these new technologies finds peak efficiency when delivered with *open access protocols*, that is, a system where participants are given free access, free interaction, and can contribute freely. These were the fundamental principles upon which the Internet was founded, and as it continues to develop, we are seeing a move away from classic, top-down, corporate models for providing content in favor of fresh, bottom-up, open access/open source platforms. This current seems completely in step with the core ambition of the public library: to provide free information to all.

### 1.2.2 The State of the Book

Computation has changed the rules of the game and currently anything that is not dependant on a bodily form is migrating to the much more immediate, glamorous and flexible domain — that of the electronic.<sup>8</sup> This migration is certainly not limited to newly created materials. Google is in the midst of a well-publicized campaign to scan as many books as they can and create a database of universally accessible knowledge. They are not alone. Parallel efforts are underway by a variety of other groups throughout the world<sup>9</sup> to add to the burgeoning pool of digitized material.

There exists, however, a significant portion of content that is resistant to digitization. These are exceptional and obscure artifacts found in archives and rare material collections whose digital

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<sup>8</sup> Paraphrased from Rem Koolhaas' acceptance speech of the 2000 Pritzker Prize.

<sup>9</sup> The dizzying pace at which Google has moved forward with its book digitalization initiative has caused anxiety among some European intellectuals, especially in France and Germany, that if the vast majority of archived knowledge online is English, it will weaken the agency of works done in other languages. The result has been an rippling of accelerated scanning in throughout Europe.

status is among their least important qualities. They serve other more valuable cultural purposes. These materials are unique to, and definitive of, the place they were created and/or currently reside. In their physicality they are alive with aura, an intangible experience that cannot yet be replicated electronically. Interestingly, as the mass scanning continues, these special materials become *more special*.

So, in this context, what is the next step for the physical book? While there may be a great deal of chatter in the blogosphere about the death of the book, upon reflection it seems an overly presumptuous forecast. For starters, about 1.6 billion people on Earth still live without electricity,<sup>10</sup> and 75 percent of the global population is still not online.<sup>11</sup> Based on the current trends, one might suggest that under the pressure of digitization what we understand as the current book will split into three parts, which I'll refer to as *absent*, *common*, and *unique*.

The *absent* is an acknowledgement that information is now produced in a wide variety of media whose representation can no longer be accommodated by the physical book alone. This is the electronic, virtual, online book. It is also the sub-worlds of information generated by Facebook, email, the blogosphere, online journals and newspapers, digital music and videos – all created without ever having a necessity for bodily presence.

The *common* is what we understand as the current, physical, leaf-bound book. While at first blush this might seem like a stable technology, it is, in fact, capable of being radically recast using slightly evolved combinations of existing technologies. For example, there are a number of recently launched companies providing compact book printer/binder on the scale of an office copy machine. These devices are interfaced with online book suppliers, like Google, and are capable of printing and binding volumes rapidly and on-demand. If, instead of printing books on a cellulose-based paper, we switched to a material with a high recycling coefficient, such as a polymer film, then one could imagine this scenario: a patron goes to the library, requests a book, which is instantly printed, and then when it is returned it is ground up and recycled into a new book. A highly functional, 50 million+ volume library could be achieved with a small machine, a high-speed internet connection, and a few hundred pounds of cycling print material.

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<sup>10</sup> Source: <http://www.globalissues.org/article/26/poverty-facts-and-stats> Accessed April 8, 2010.

<sup>11</sup> Source: <http://www.internetworldstats.com/stats.htm> Accessed April 8, 2010.

The *unique* is an understanding of how to treat those objects resistant to digitization. As library collections become more and more similar, the rare materials – that part of the collection that makes an individual library different and is often a potent embodiment of the local culture – increase in value. In a future where printing on-demand is widely accepted, the traditional foundation of the library collection will be obsolete. Instead, libraries can devote more energy and space to archiving rare and unique material. This curation should not focus only on materials from the past, but strive to support the creation of new unique materials in the present and future.

### **1.3 Synthesis: Knowledge Commons**

Libraries remain a critical piece of the public domain and a symbol of our persistent need for collectivity. They are also engines of mobility that provide equal services to all genders, classes, and races. In imagining the next evolution of this building type, we might return to old notions of gauging success in a public library through *progress* and *abundance* in its collection. (Aurst 2001, 10) In this light, the goal for the next library should be an approach that maximizes the potential of each respective phase of the book and provides a stage for synergetic interactions between them. The exact nature of that atmosphere is difficult (if not impossible) to pin down because in all likelihood it will take on the qualities of the medium it instantiates: it will be a user-generated machine, constructed literally by countless contributions from the entire community, rather than the singular vision of any one individual. If the typology is allowed to loosen up and go with the electronic flow, it will be able to begin bridging the divide artificially separating our physical and virtual realities and dramatically increase its effectiveness.

There is already a wealth of useful information online and more is being generated every minute. The library is a servomechanism that can facilitate the flow of information from its source to any point where it can be made useful. The following section will discuss the most strategic placement of new libraries in order to leverage the greatest possible impact with respect to the continent of Africa.

## 2. Challenge: The Digital Divide

For those in the OECD, it is easy to fall into the trap of believing global connectivity is here: the World Wide Web has made it possible for anyone, anywhere to access anything.

### 2.1 The Digital Divide

In reality, however, that is not the case. While author Thomas Friedman has added much to the perception of a flat world, he is also quick to point out that without a web connection you are not in the game<sup>12</sup>. In 2009 just over 25% of the world's population were classified as Internet users, with conspicuously low percentages of Internet penetration in both Asia (19.4%) and Africa (6.8%). (figure 2.1)

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	Population (2009 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% Population)	Growth 2000-2009	Users % of Table
<a href="#">Africa</a>	991,002,342	4,514,400	67,371,700	6.8 %	1,392.4 %	3.9 %
<a href="#">Asia</a>	3,808,070,503	114,304,000	738,257,230	19.4 %	545.9 %	42.6 %
<a href="#">Europe</a>	803,850,858	105,096,093	418,029,796	52.0 %	297.8 %	24.1 %
<a href="#">Middle East</a>	202,687,005	3,284,800	57,425,046	28.3 %	1,648.2 %	3.3 %
<a href="#">North America</a>	340,831,831	108,096,800	252,908,000	74.2 %	134.0 %	14.6 %
<a href="#">Latin America/Caribbean</a>	586,662,468	18,068,919	179,031,479	30.5 %	890.8 %	10.3 %
<a href="#">Oceania / Australia</a>	34,700,201	7,620,480	20,970,490	60.4 %	175.2 %	1.2 %
<b>WORLD TOTAL</b>	<b>6,767,805,208</b>	<b>360,985,492</b>	<b>1,733,993,741</b>	<b>25.6 %</b>	<b>380.3 %</b>	<b>100.0 %</b>

NOTES: (1) Internet Usage and World Population Statistics are for September 30, 2009. (2) CLICK on each world region name for detailed regional usage information. (3) Demographic (Population) numbers are based on data from the [US Census Bureau](#). (4) Internet usage information comes from data published by [Nielsen Online](#), by the [International Telecommunications Union](#), by [GfK](#), local Regulators and other reliable sources. (5) For definitions, disclaimer, and navigation help, please refer to the [Site Surfing Guide](#). (6) Information in this site may be cited, giving the due credit to [www.internetworldstats.com](http://www.internetworldstats.com). Copyright © 2001 - 2009, Miniwatts Marketing Group. All rights reserved worldwide.

Figure 2.1 World Internet Usage and Population Statistics (Source: www.internetworldstats.com)

There are, however, steady signs of improvement. The growth of high-speed connectivity – practically mandatory for the contemporary web – has grown from just over four million subscribers ten years ago to some 400 million in 2009. (figures 2.2a - 2.2c) Even though much of the world still remains either disconnected or hobbling along on painfully slow dial-up networks, a significant milestone was achieved in 2009 when the first sub marine fiber optic cable reached the Eastern shore of the African continent from its origin in Mumbai.

<sup>12</sup> Friedman, Thomas. "World is Flat 2.0." MIT Open Courseware. Accessed March 28, 2010.

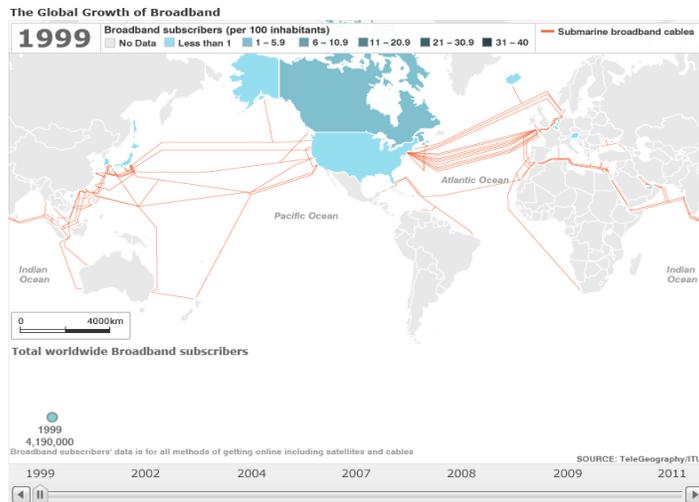


Figure 2.2a The Global Growth of Broadband – 1999 (Source: BBC)

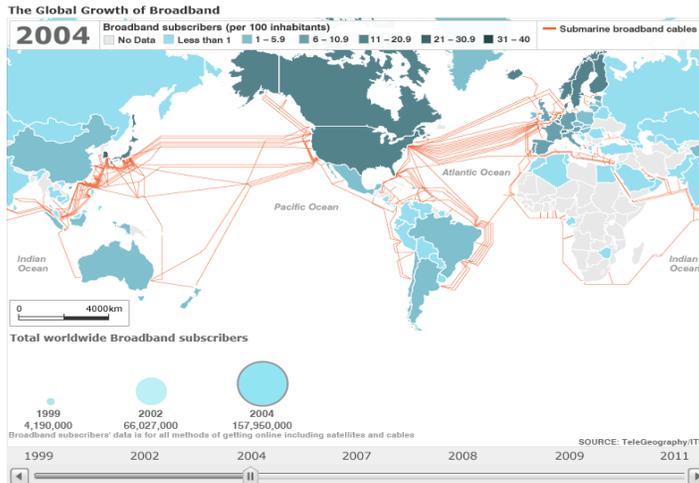


Figure 2.2b The Global Growth of Broadband – 2004 (Source: BBC)

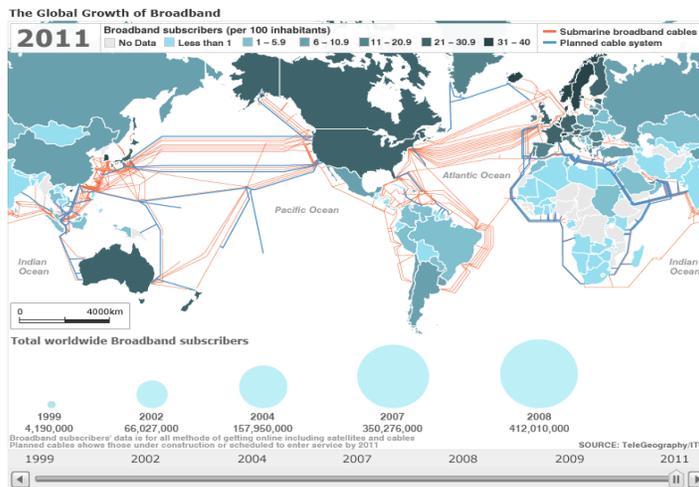


Figure 2.2c The Global Growth of Broadband – 2011 (Source: BBC)

It is important to take note that what regions like Africa and Asia lack in percentage of users, they make up easily in sheer number of users. Asia, for example, despite having less than 20% web penetration already represents over 40% of global Internet users. Contrast that with North America, who despite having a commanding 74% of their population online only have a 14% share in the total number of users. While it is only a matter of time until Asia, driven by broader penetration into India and China, significantly outweigh the US and Europe in volume of users, it remains to be seen how these parties will use their girth to steer the development of the web itself.

### 2.1.1 Who is on each side of the Divide?

The decade-long head start that the OECD has in large-scale Internet mobilization is nonetheless extremely significant. One way of expressing the current disparity is what educator Marc Prensky has termed *digital natives* and *digital immigrants*<sup>13</sup> - the difference being whether digital technologies such as personal computers, Internet, and mobile phones were widely available in a society throughout a child's development. Prensky asserts that natives are almost automatically accustomed the language, rites, and customs of the IT, whereas immigrants, who come to these tools after living a non-digital existence, operate with a *thick accent*. The first generation of OECD natives is already emerging from college while the bulk of their peers from developing countries are by and large still scrambling to adapt.

On the other hand, this logic might become outmoded by the evolution of the Internet itself. Most observers recognize the decline of the preliminary methods of communication of information online, which involved users going to sites strictly to access content provided by the site's administrator. Web 2.0 is the catchphrase for sites that shifted to more interactive platform, which not only allows users to access data but also relies on them to generate content themselves. As the interface between the user and the network become more engaging, we may witness a casting off of the immigrant complex that hampered the previous generation. Furthermore, the next Internet evolution, referred to as the *semantic web*, aims to understand the meaning of online content as pure information, thus providing ultimate accessibility to humans and machines alike, perhaps further easing the transition for fresh users.

Conjecture aside, what is the situation at the threshold of the digital divide in 2010? To answer this question, it is useful to examine in detail EVOKE itself as a MMO (massive multiplayer

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<sup>13</sup> Prensky, Marc. "Digital Natives, Digital Immigrants." In *On the Horizon* (MCB University Press, Vol. 9 No. 5, October 2001)

online game) that offers interesting insights from both sides of the chasm. The focus of the game is to get participants to put their energy towards solving real world problems. The potential is enormous: in her TED presentation creator Jane McGonigal cites data suggesting online gamers have spent a combined total of 5.9 million years playing the worlds largest MMO, World of Warcraft. EVOKE's mission is both a manifesto and a rallying cry:

*“EVOKE was also conceived as a crash-course in changing the world. It is a chance to showcase the kind of resourceful innovation and creative problem-solving that is happening today in sub-Saharan Africa and other developing regions, and to collectively imagine how the lessons from those scenarios can transfer, scale, and ultimately benefit the entire planet.”<sup>14</sup>*

The goal of the game is to achieve an *epic win*, which McGonigal defines “as an outcome so extraordinarily positive you had no idea it was even possible until you achieved it.” The epic win that EVOKE is searching for is the real world solutions for major problems facing Africa. The creators believe they can make strides towards achieving this by combining the incredible resourcefulness, dedication, and ingenuity of gamers with social networking tools akin to Facebook.

In its structure the game is a straightforward techno-utopia, who idea of *winning* is more dependant on the process than on specific outcome. The goal of the system is to create the maximum amount of information sharing and relationship building between gamers - especially between avant garde sustainability activists and those living in the developing world currently dealing with issues of food security, energy scarcity, disease, water shortages, etc. Most top players drawn into the game have a altruistic disposition and are motivated to continuously contribute at a high level in hopes of gaining one of twenty seed grants dedicated towards real-life funding of the best ideas put forth in the game<sup>15</sup>. The format of the game regularly emphasizes the importance the individual. For example, according to the ambiguous *How To Play* link you will find the message, “Take the journey you want to take and chose the rewards you want to earn.”<sup>16</sup>

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<sup>14</sup> <<http://blog.urgentevoke.net/2010/03/09/who-created-evoke-and-why/>> March 25, 2010

<sup>15</sup> Personal observations based on the author's participation in EVOKE.

<sup>16</sup> <<http://www.urgentevoke.com/page/how-to-play>> March 25, 2010

### 2.1.2 The Reality of the Divide

Once you get past the utopian rhetoric, the goals of the game are rather modest: get people from all around the world to share information and hopefully start spin off efforts. However, early on it became apparent that there was a severe imbalance between percentages of players from Europe and the United States versus their African counterparts. A survey sampling of 50 EVOKE gamers (from the 14,217 players at the time of the survey) chosen at random from the Agent database consisted of: 28 North Americas, 16 Europeans, 2 Asians, 2 South Americans, 1 Australian, 1 Latin American/Caribbean, 0 Middle Eastern, 0 African.<sup>17</sup> The data is not entirely surprising given the statistics regarding Internet penetration rates on Figure 2.1. This disparity does not go unacknowledged by African gamers themselves. In a blog within EVOKE a gamer from North America conducted the following interview with a fellow gamer from Uganda:

*AGENT JAKE BAIRD: What is the worst crisis to you in the world currently that requires Evoke's attention?*

*AGENT SSOZI JAVIE: The Digital Divide! The GAP between the INFORMATION HAVES and HAVENOTS. The world is currently registering major political, social and economic developments and setbacks. The information age is demanding for creation of more information recourses. And sharing of more information. It's a big shame that in many communities this need has not been realized. And in some communities access remains a very big challenge. In my opinion, information access and networking is the climbing step to solving a wide range of crises in the world.<sup>18</sup>*

The digital divide poses serious threats to the effectiveness of the game. It is interesting to observe the cybernetic cycle of how this threat was acknowledged and dealt with in the game. The characteristic targeted is the presence of African gamers. The game organizers realized there were disproportionately fewer African gamers (undoubtedly they anticipated this). The decision of the comparators<sup>19</sup> was that more visibility of African gamers was necessary in order to ensure the success of the system. It is unclear from the perspective of the gamer the entire range of corrective measures the organizers implemented. One easily observable angle was to increase the number of friendships<sup>20</sup> by African gamers by putting them in a “Featured Agent” heading of the Agent directory (figure 2.3).

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<sup>17</sup> Survey conducted by author March 25, 2010 with data from the EVOKE website.

<sup>18</sup> <<http://www.urgentevoke.com/profiles/blogs/background-2>> March 25, 2010

<sup>19</sup> In the cybernetic cycle, the *comparator* is the agent who takes data from the sensors, makes judgments about how effectively the system is functioning, and issues directives to the *activator* who carries out adjustments to the system.

<sup>20</sup> Creating invitational friendships is a feature of the game used by players to create an interior network of peers whom you theoretically support and are supported by.

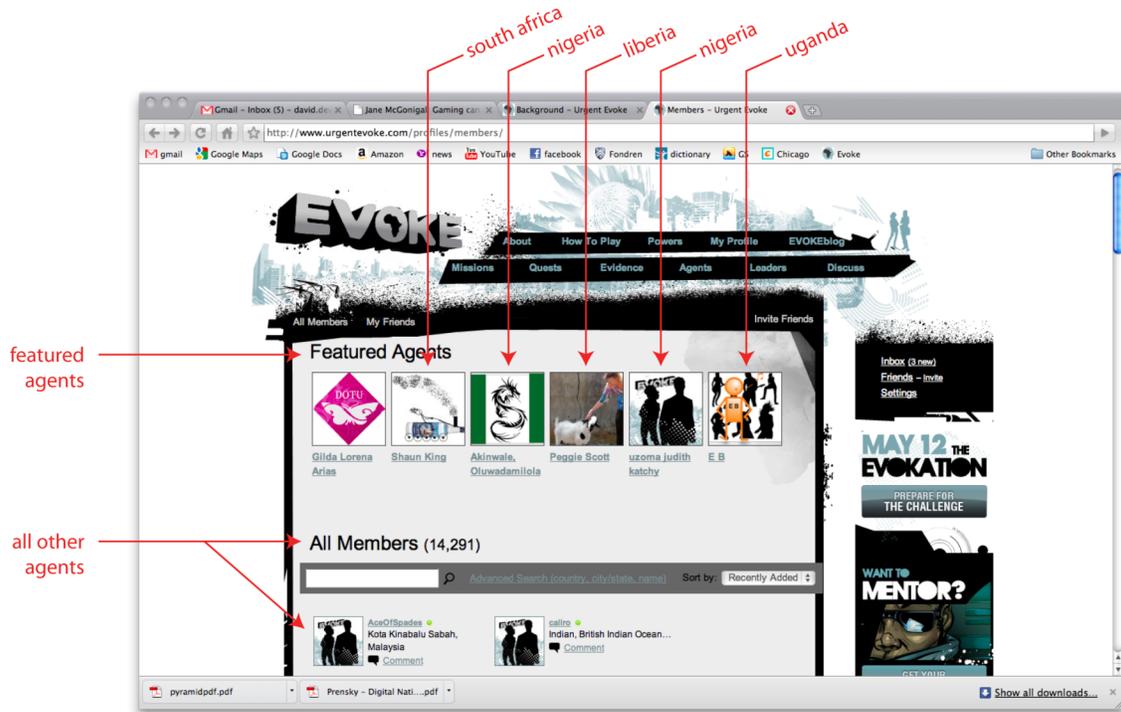


Figure 2.3: Screenshot of Featured Agents (source: screenshot by author with notes by author)

Gamers themselves were acutely observant of the activities of the organizers, as is reflected by this blog post by Agent A.V. Koshy<sup>21</sup>:

*It's none of my business if Evoke wants to create an elite set of leaders for the world who will be from all the races but American and Eurocentric inside. Take the leader board. Look carefully at it. Look at the approved projects - the patterns are emerging clearly but it's not my business, I'm here to game, to help people and the world with its problems, to make friends and ultimately to learn, find out what's happening and also see if my vision for autistic peoples can fit into theirs and vice versa, since it is an international vision, in which case I'm ready to move with them. As for you, I know as little about you as I do about them. There are networks and networks and the future is about swarm theory, crowdsourcing, collaboration etc. Evokers are new, and trying to push the boundaries, so to that extent I'm with them. This is an experiment regarding the future and I want to be in it to see where it leads.*

The reality instantiated by EVOKE is a provocative and sobering counter to views regarding the degree to which the web has managed to connect all peoples on the globe. It is apparent that those on the front lines, who seek out and, in the case of the organizers, *depend* on this connectivity to exist, that the digital divide is indeed a significant barrier. The prospects for

<sup>21</sup> Agent Koshy identifies himself as being from Trivandrum, Kerala State, India – a county with low penetration of Internet users but high volume of users.

change are already in motion and, while all indications are that the gap is steadily closing, we are clearly still a ways off.

What about the world *after* the divide closes? What might we expect to see from a game like EVOKE in five or ten years? On one hand there is clearly a desire to facilitate the proliferation of knowledge. EVOKE gamers on each side of the gap have met the challenges of the system with great alacrity and are clearly probing the limits of the system. But EVOKE is only one instance. Even if the existing Web 2.0 platform maintains only its current level of sophistication, knowledge sharing sites such as Wikipedia, Youtube, and Flickr will experience an explosion of new content. If, as some predict, institutions of higher education become disaggregated and given universal access, it is reasonable to imagine a spike in learning that would dwarf the Renaissance. Significantly, the majority of the above activity is going to be generated and consumed by the population epicenters of China, India, and Africa, which promise to shake up the American and Eurocentric dominance of current web content. Indeed, in the future of examples like EVOKE, it is not entirely unreasonable to think you may have trouble finding the OECD players amongst the incredibly numerous counterparts from the rest of the world.

But, as Buckminster Fuller reminds us, we are the architects of the future, not it's victims. This was the very same frame of mind with which Sir Thomas Moore framed the original Utopia (at least the first such named). Moore sketched out his vision for an ideal society at the critical juncture when Europe was colonizing the New World. Like Fuller and his other ideological descendants, Moore understood the promise that with a proper course of action something better could take place in the future.<sup>22</sup> Where are the current leaders of the utopian project leading the society? It would seem that *rip > mix > burn*<sup>23</sup> is still the operative catchphrase. Projects such as EVOKE or TED are hungry for a balance between finding the right creative minds, connecting them to other creative minds, sparking a synthesis of ideas, and providing channels to the necessary resources to realize those ideas. A concrete example of this is an EVOKE post from Agent Heyming proposing an initiative called *Gratitude Gardens* (the underlined portions represent hyperlinks):

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<sup>22</sup> Picon, Antoine. "The Digital and the Utopian." Harvard Design Magazine 29 (Fall/Winter 2008-2009) 134-139

<sup>23</sup> A modified version of the slogan *Rip. Mix. Burn.* popularized by Apple Computers, Inc. at the outset of the 21<sup>st</sup> century.

*This idea has been inspired by several other Agents, from Agent McLellan's Hyperlocavore movement to Agent Buentrostro's Community Urban Farms , Garden Earth Project, and even Agent Falconer's connection with the local ecovillage and his heritage as a South African.*

*I think all of these agents are on the right track, so I created the **Gratitude Garden Movement** as a way of making this work something anyone can contribute to and create a global resource for sustainable gardening practices.*

Agent Heyming goes on to explain his concept for the Gratitude Gardens Movement, which, as he alluded to, is a synthesis between his own ideas and new ideas he discovered in the game. The post generates a significant amount of chatter and support from other gamers and inspired some to take the first steps to creating Gratitude Gardens in their own communities. The idea stands an excellent chance of receiving future funding from the game organizers, especially if it continues to attract more supporters both within and outside the game.

### 2.1.3 Increased Knowledge Penetration

In order to take advantage of this vast pool of knowledge, individuals from the target region (e.g. Africa) must have web access. Ideally, numerous libraries would be established on the frontiers of Internet penetration. ***This is precisely where the establishment of new libraries could have the largest impact.*** As web connectivity reaches into new territories more libraries are added: each offering free online access to all members of the community and a synthetic approach to orientating new users to the array of resources now available. If strong communication channels are established between these libraries, solutions found to be effective against local or regional challenges will spread quickly throughout the network.

## **2.2 Strengthening Local Culture in the Face of Globalization**

The digital divide exists, but it is closing and by the time it vanishes completely the demographics of the parties currently separated will be very different. The utopian vision that is observable from the examples cited here represent a desire to forge a future society that uses Internet technology, specifically social networking, to harness the enormous amount of resources available online and focus that energy towards solving tangible problems in the real-world. Perhaps an unspoken promise is that by focusing intensely on the individual and their unique position to fuse knowledge shared by others with local insight, they can illicit change in their own community that will be both empowering and incredibly unique. Globalization, in this view, may not represent a soul-crushing blandness but instead an incredibly fascinating kaleidoscope of hybridized ideas.

### *3. Idea: Libraries Across Africa*

This section will outline a vision for a new type of library focused on staging a relationship between *both* the incredible array of resources available online and the physical building that embodies the local culture. The attempt will be to offer organized access to the greatest population, at the least cost.

#### **3.1 Libraries Across Africa**

The basic tenants of the Libraries Across Africa are: 1) to provide zones of information access (e.g. libraries) that combine wide-spread knowledge sharing with local insight in an effort to trigger the discovery of solutions to immediate and compelling problems through 2) the establishment of structures that are a combination of standardized, technologically equipped cores and auto-constructed<sup>24</sup> bodies.

##### 3.1.1 Social Enterprise

This entire undertaking registers as a social enterprise on two important scales. First, at the level of the global, creating an interconnected network of libraries would facilitate a *reaching out*<sup>25</sup> by individuals in Africa to other online communities, either regional or international, in order to enrich their lives and help meet whatever pressing challenges they might face. Conversely, it would allow for a *reaching in* by individuals from all parts of the world to these locales in Africa in order to discover the valuable attributes unique to each specific node. Additionally, at the local level, each physical library would serve as an important piece of a community's urban fabric and can be developed with regard to the distinct qualities specific to that place.

#### **3.2 Power Structure**

When proposing a large wave of new libraries, it is key to evaluate the power structure that would facilitate such an undertaking.

##### 3.2.1 Carnegie Precedent

The Carnegie Library endowment is an extremely useful analogue. Between 1886 and 1917 Carnegie underwrote the construction of nearly 1,700 libraries in the U.S., which represented

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<sup>24</sup> *Auto-construction* is a process where only a portion of a building (typically involving the primary structure, spaces, and systems) is constructed initially by professionals. Later, the remainder is finished by the inhabitants.

<sup>25</sup> The terms *reaching out* and *reaching in* are being appropriated from Richard Baraniuk, the Victor E. Cameron Professor of Electrical and Computer Engineering at Rice University.

roughly half the 3,500 of libraries in the entire country by the time the final endowment was issued. Additionally, the philanthropic juggernaut would build another 800 libraries abroad and in the process spearhead the modernization of the library; transforming it from a conservative nineteenth century autocracy to a squarely public agency streamlined for maximum efficiency.

A defining moment was the establishment of the Carnegie Corporation,<sup>26</sup> a new company set up specifically as a machine to start giving away the millionaire's fortune. The corporate metaphor was backed up with teeth; Carnegie demanded his charitable companies run with the same efficiency that his for-profit businesses had. To ensure this he brought in his personal secretary, James Bertram, to oversee the administration of the library endowment. The kid gloves of the benevolent donor were cast off and replaced with shrewd contractual agreements of a steel magnate. The act of giving was transformed into a business transaction and if a community wanted a library it would have to follow clearly defined protocols, which gradually become known as the "Carnegie formula." In order to handle the massive volume of projects, the process had to be kept simple and straightforward. Therefore, in order to receive a library grant, each applicant must: 1) Demonstrate a need for a library; 2) Tax itself 10% of the construction grant indefinitely to ensure operation costs; 3) Provide a site and; 4) Provide free service to all in the community.

Over the course of implementing hundreds of libraries, Bertram compiled his observations and eventually produced a short pamphlet entitled "Notes on the Erection on Library Buildings." It went through multiple additions and by 1911 accompanied all formal grant offers. The "Notes" summarize in a few brief pages the seismic changes rendered unto the library. While generally the document is careful not to assume a position of too much control, the strongest language is aimed at libraries of the past, stating that, "many buildings erected years ago, from plans tacitly permitted at the time, would not be allowed now." The notes go onto explain in a crisp and matter-of-fact tone that the Carnegie Corporation is interested in, above all, *economy*. The clearest indication is the only phrase in the document singled out with dramatic emphasis:

*TO OBTAIN FOR THE MONEY THE UTMOST AMOUNT OF EFFECTIVE ACCOMMODATION, CONSISTENT WITH GOOD TASTE IN BUILDING.*

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<sup>26</sup> Van Slyck observes that Carnegie fell back on using the term *corporation* because there had not yet existed a term for a company whose sole purpose was to give away money. Ibid 24.

### 3.2.2 Contemporary Players

Who will lead the way in the next great wave of library proliferation? Everyone. The beauty of a densely networked culture is that massive and shocking changes can be implemented by the spontaneous cooperation of millions of individuals. Still, when you examine the actual cast of characters, finer meshes of detail emerge and each node in the system plays a unique and powerful role. As discussed in section two, one can break the world down into information *haves* and *have-nots*. The *haves* are those citizens of the OECD countries already building the online knowledge base. The best single thing they can do at the present time is support open access protocols. That way, when the digital divide closes and the information *have-nots* (e.g. India, Africa, and China) become *haves*, the channels of information absorption, creation, and sharing will be wide open to *billions* of new knowledge producers.

What about the contemporary Carnegies? Indeed, there is plenty of room for contribution from the current philanthropic superstars. Bill Gates is, of course, a prime candidate for such contribution and already gives generously to libraries. Perhaps his foundation could leverage greater effectiveness for his capital investment if instead of focusing on providing the Internet to existing libraries he could construct new libraries on the frontiers of broadband connectivity. Additionally, any number of philanthropic individuals or agencies could step up to fund individual libraries. Since the entire web-connected world stands to benefit from the knowledge that will be produced by the affected population, many parties have an interest in seeing the network flourish.

Google also has a role to play and are already doing a remarkable job. The most powerful online search engine has already expanded to providing a broad cache of free online services that seem to get better every day. The Google Book Project is also a key piece in the puzzle, with its mission to "...organize the world's information and make it universally accessible and useful...The tremendous wealth of knowledge that lies within the books of the world will now be at our fingertips." The sustained effort of Google and other likeminded companies is vital.

### **3.3 Physical Infrastructure**

Online networks to the side, there is still the task of conceiving of and implementing the physical infrastructure. The opportunity exists for a significant revamping of the library as a typology, and such questions suggest a systematic approach that favors resilient planning strategies and avoid

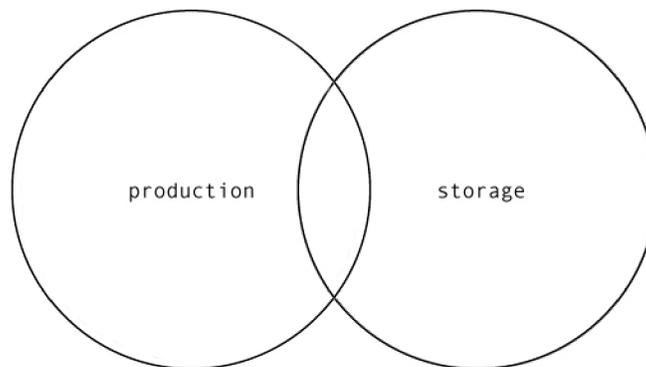
the Buckminster Fullerian trap of total design, which leads to extremely complex systems that are hard to execute and delicate to maintain.<sup>27</sup>

### 3.3.1 Addressing Local Needs at a Global Scale

Strategies that address most of these compelling and immediate issues already exist, but lack both widespread understanding and will towards implementation. How can designers partner with local communities to have a maximum impact, in the shortest amount of time, with limited resources? What models have been developed that should be interrogated, modified, and redeployed? What are the tactics and strategies (rather than definitive answers) to these contemporary questions? How can we scale responsibility from the top *down* and grass-roots level involvement from the bottom *up* to spark significant progress in the immediate future?

### 3.3.2 Open Building Systems

How would such a space be organized? What would be its *diagram*?<sup>28</sup> If it goes beyond a single project and becomes an entire network of interconnected and cooperative libraries, then what is the prototype? To begin unpacking these questions, I'd like to start by dividing the spaces in the library into two types: knowledge production space and knowledge storage space. (figure 3.1)



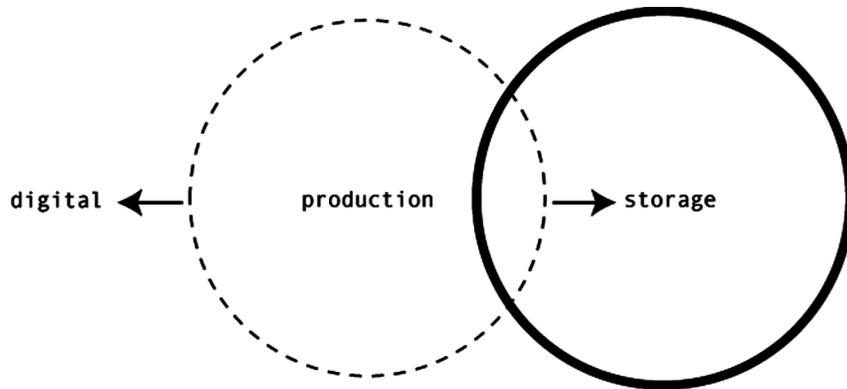
**Figure 3.1: Programmatic Distribution** –The programmatic components in the library are split into two types: knowledge production spaces and knowledge storage spaces. In open building systems terms, the storage spaces will act as the permanent support with a limited amount of internal territory for expansion. The knowledge production spaces, which are subject to the ambient organizational shifts as production needs continue changing, will have a much greater territory to accommodate expansion, change, and flexibility in use.

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<sup>27</sup> This point is borrowed from Antone Picon, who raised it during a Q&A session with Bill Dunster of ZEDfactory during the Conference on Ecological Urbanism, Harvard University Graduate School of Design, April 3-5, 2009.

<sup>28</sup> Since everyone seems to have a different definition for the term *diagram*, I'd like to specify that, for me, a diagram is a two-dimensional geometric symbolic representation of information according to some visualization technique, which provide an abstract way for thinking about *organization*. The variables in an organizational diagram can include both formal and programmatic configurations.

When the production spaces are *activated*, that is, they begin generating information, the knowledge produced will go in one of two directions: digitally produced content will go straight online, while anything produced with a physical body that cannot be satisfactorily digitized has the potential to be absorbed by the librarians/archivists into to the library’s permanent collection. ***I propose that this organizational strategy could become the basic prototype for all libraries in the network.*** (figure 3.2)



**Figure 3.2: Activation** – When the production space is activated it generates content that flows in one of two directions: either onto the web as digital content or into the library’s archive as physical artifacts.

### 3.3.3 Typical vs. Atypical

In terms of building system strategies, I believe that there are multiple ways of achieving this diagram and if you committed it to a brief and distributed it to twenty different architects you would receive twenty unique designs (ranging in effectiveness, but nevertheless fundamentally meeting the challenge). This point is not a digression. When attempting to implement a systematic approach to a problem it is important not to over-design the system, which again leads to solutions that are inflexible, hard to implement, and delicate to maintain.

An existing approach that seems to be a logical response to this diagram is an open building system, which establishes an up-front *support* framework and opportunity for ongoing infill through the provision well-defined *territory*.<sup>29</sup> Support consists of the “hard part” of a building, including the structure, mechanical systems, plumbing, and initial spaces for occupation. Over the course of the life of the building, the territory, or zones of the building left for future development, can be filled in to accommodate temporally appropriate needs. The building

<sup>29</sup> Open building systems have a significant slate of literature, but the specific ideas cited here may be found in: Habraken, N. John. "Control and Complexity." *Places* vol.4 no.2 (1987) pg. 3-15

system compliments the diagram in several ways. First, it accounts for both stability (critical to current library) and flexibility (severely lacking in the current library, but abundant in related typologies, such as the *mediatheque*<sup>30</sup>). The stability would be provided by the support and include information technology, a steady source of energy, a safe and reliable structure. The production spaces, which are subject to unpredictable (i.e. ambient) organizational shifts as production needs continue changing, will have a much greater territory in which to expand and change in their use. In his article *Ambient Organization*, Brandon Hookway introduces the provocative notion that, “organization is the gaze, while ambience is the glimpse.”<sup>31</sup>

The gaze versus glimpse construction is an incredibly powerful way of describing how this library can begin to take shape. The *gaze* are those parts of the library typology that endure, that capture and celebrate the physical memories of a people, in short, the hard core of the library’s power at leveraging cultural agency. The *glimpse* is altogether different; it is the hazy, enveloping, dispersed, noisy, and overlapping “order” that is the prevailing logic of online networks. If we can articulate the ambient in tectonic terms, then we can begin approaching a library that works for patrons with both physical and virtual needs.

#### 3.3.4 The Elemental: a Case Study in Typical vs. Atypical

*“Every time we come here, we have surprises. The Energy is incredible.”*

*Gonzalo Arteaga of Elemental during a site visit to the Renca Housing Development*<sup>32</sup>

To illustrate these themes and the immense potential they represent it is useful to look at a contemporary example. While this particular instance deals with housing, the fundamental construction methodology, scale of projects, and stunning economic model can be translated to other building types – *such as the library*.

The Elemental is a group of designers and strategists organized in 2003 and based in Santiago, Chile that utilizes open building strategies combined with auto-construction. Despite being a relatively small operation, Elemental has already completed seven major developments equating

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<sup>30</sup> A mediatheque is an establishment, generally public, which preserves and provides access to various types of media and is not centered on the physical book.

<sup>31</sup> Hookway, Brandon. “Ambient Organization,” in *Log 5* ed. R.E. Somel and Sarah Whitting (MIT Press: Cambridge, 2005), 65

<sup>32</sup> Gudrais, Elizabeth. “Housing With Dignity.” *Harvard Magazine*, November 7, 2008

to 737 total dwellings, with an additional seven projects either in construction or development adding another 708 dwellings<sup>33</sup>.

As a case study, we can look at the first major development from Elemental: the Quinta Monroy settlement in Santiago, Chile. The project, commissioned by the Chilean government, was the reorganization of 100 families living in a small informal urban settlement and stipulated that the families should participate in the design process. The only way the team was able to provide a successful solution was to distribute the upfront capital equally among all residents, provide only the basic services to each unit, and to activate the residents themselves as a significant contributor to the project.<sup>34</sup> This involvement began in earnest in the design process, with architects working with residents and to develop a vision for the future project, and continued after official construction commenced, with residents taking the initiative to finish the units themselves. According to Elemental, eighteen months after the first houses were turned over to their owners, more than half had been expanded to beyond 50 m<sup>2</sup> from the original 36 m<sup>2</sup>.

By turning control of the ultimate outcome of the building over to the residents, the project also generates a palpable amount of enthusiasm. In other Elemental projects, residents took the principles of auto-construction beyond their private territory and began making improvements to the shared community spaces.<sup>35</sup> Formally, the built-out projects represent an incredibly compelling combination of underlying architectural intention, mingled with the themes developed by the inhabitants of the community. (figure 3.3)



**Figure 3.3 Quinta Monroy Housing - Before (TOP) and After (Bottom) Auto-Construction** (Source: Elemental)

<sup>33</sup> <<http://www.elementalchile.cl/viviendas/>> Accessed April 5, 2009

<sup>34</sup> Durack, Ruth. "Village Vices: The Contradiction of New Urbanism and Sustainability." In PLACES 14 vol. 2 (2001)

<sup>35</sup> Gudrais, Elizabeth. "Housing With Dignity." Harvard Magazine, November 7, 2008

Perhaps the most promising attribute that suggests widespread success of open building methods is a look at the bottom line. Open building combined with auto-construction has demonstrated that with a minimal investment from centralized funding authority, small communities can create buildings of significant value. In the case of Quinta Monroy, the government investment in the land, basic infrastructure, and first 50% of the house cost \$7,500 USD per unit. According to post-occupancy evaluations the cost to a resident to build-out the second half of their unit was on average \$750, bringing the total invested to \$8,250. Within two years of construction these same units had a market value of roughly \$20,000.<sup>36</sup> The process of building equity through revaluation of the land and transferring that wealth to the families is what Elemental terms *building middle-class DNA*.

### 3.3.5 Applying this Model to the Library

The notion of providing a community with “the hard part” of a library would mean providing initial program spaces, a safe and reliable structure, information technology, and a steady source of energy. The community would be responsible for any additional spaces that would enliven and enrich the atmosphere of the library. This partnership would yield multiple benefits, among which are: minimized up-front capital investment from centralized funding agents; greater community involvement in the establishment of the library; opportunity to capitalize on local building materials, methods, and labor; unique identity for each individual member within the network; and the ability for each library to develop according to their needs and within their means.

## **3.4 Making Places of Collective Memory**

It remains an imperative task of both the design team and the community to understand the library as a space that stages a relationship between the virtual and the physical. If only the virtual is represented, then the unique identity of a community is in danger of waning. If only the physical is addressed, then the incredible wealth of information available from the network goes unutilized.

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<sup>36</sup> VERB editors, “Quinta Monroy, Iquique: Elemental / Alejandro Aravena,” in VERB Crisis, ed. Mario Ballestreros, Irene Hwang, Tomoko Sakamoto, Michael Kubo, Anna Teta, Albert Ferre, Ramon Prat (Actar: Barcelona, 2008), 291

## *4. Money: The First \$1000*

If this project received were granted funding I would propose using the first \$1000 in the following four activities:

### **4.1 Team Building**

Though this may not represent sizable monetary expenditure, the recognition of receiving a World Bank Institute grant would greatly help in attracting support for further project development. I would immediately set to work formulating an advisory board consisting of individuals with experience in the library administration, online education initiatives, design and implementation of open building systems, knowledge of ground conditions in specific locations in Africa suitable for charter libraries, and the representatives from individual companies that could be allied to provide the basic support infrastructure.

### **4.2 Web Presence**

Establish an initial web site that would serve as a go-to point for basic information regarding the project, instructions for how to participate, and facilitate the receiving of donations.

### **4.3 Fund Raising**

Create a basic fundraising strategy that would support short-term goals necessary for launching the project. Produce the necessary literature or mailings that would secure the necessary capital to allow the project to move forward.

### **4.4 Establish Non-Profit**

Any remaining funds would go toward the registration fees for filing 501c3 non-profit status in the United States.

## *Request*

With this proposal I would like to make the following requests, in order of priority:

1) **Seed investment** to start developing this social venture. I believe that proliferating a new type of library across Africa would be incredibly powerful and will increase the effectiveness of Africans to benefit from the wealth of online knowledge in addition to giving each community an additional public space for education. Nevertheless, it is an enormous undertaking and formal recognition of support from the World Bank Institute would be invaluable to launching this project.

2) **Online mentorship** would be highly advantageous, and I would be grateful for any mentor. Given the choice, I would be extremely interested in either Mr. Vis Naidoo of Microsoft South Africa or Mr. Paul Gabie of Orient Global, both of whom have specific credentials for education initiatives.

3) **Travel funds** to participate in the upcoming EVOKE summit in Washington DC would also be extremely useful. I am fascinated by the EVOKE process and am highly interested in the opportunity to meet see the faces of the people whose work I have already benefited from. I am also confident in my abilities to be an fully engaged participant in the summits proceedings.