

The Subway Libraries

by:

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Bachelor of Science in Architecture
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ABSTRACT

As New York's subway has adapted to changes in population, routing, and technology, numerous platforms have been abandoned - left as vestigial spaces within functioning stations. Despite their disuse, these spaces have enormous latent potential. This project couples two circulatory infrastructures in the city, public libraries and public transit, to reclaim three such platforms as sites for a new institution – the Open Library. This institution seeks to extend the historical development of the library with a greater focus on access, knowledge production, and user-agency while also acknowledging the mobility inherent in the modern city and providing opportunities for interaction and circulation among people and artifacts.

Located on abandoned platforms at Columbus Circle, Canal Street, and Brooklyn Bridge Stations, these libraries are designed such that the space of the library functions as a diagram of the institution. Each is an open, linear space formed between walls which function as reinvented stacks. Rather than a container designed solely according to the program of the book, here, each stack pairs a glass wall toward the subway with a wood wall facing the library while varying the character and separation of the pair according to the library's numerous programs - sometimes only wide enough for books and acoustic baffling while at other times bulging to accommodate an entire room or a sky-lit planter. The result is a series of interventions within the subway that questions the relationship between knowledge production and consumption, provides places of interaction among people and artifacts, and instigates a physical and intellectual renovation of both subway and library.

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Subway



library



Preface: A Note on Organizational Structure

This project reclaims abandoned platform spaces within working stations of the New York City subway as sites for a new kind of library. This study developed organically out of a critical self-examination of past work and interests in dialectical conditions. Beginning first with an examination of the ‘stranger’ as such a dialectic, the project then wandered to become an exploration of conditions of strangeness and familiarity as related through Freud’s notion of the uncanny. In using New York’s subway as a context into which one might intervene to render such conditions visible, a number of abandoned subway spaces became of interest due to their repression. However, the potential of these abandoned spaces was so significant that the project was reframed in order to examine the pairing of subway and library as democratizing institutions that might realize such promise.

This work is organized in two principal parts: the first half (section 4) frames the question to which the second (sections 5 through 8) provides an answer – the former comprised of open-ended investigations into the cultural conditions that provide the context in which this project might be read while the latter describes the design itself in four sections. The first section will discuss the three conceptual pairings that drive the project: democratization and access; movement and mobility; and interaction and circulation. The second describes the design of the Open Library as an institution defined by openness, user agency, and nodes of program. The third demonstrates how that institution, like the subway itself, is implemented or made manifest through the design of ideal prototype based on programmatic, experiential, and architectonic considerations. Lastly, the instantiation of that ideal prototype and its subsequent adaptation to the realities of the sites will be revealed through use – through the eyes of five users as they move through the city, the subway, and the library.



“Do we need an avant-garde architect? Well, perhaps. We need avant-garde users. You need social networks. You need to design processes, not just the thing. So rather than barricading the space with forms that express ‘displacement’ and ‘movement’ and ‘openness’” while in fact often disrupting the possibility of movement and change – they are substitutes, replacements for actual changes in society and in human minds and lives – the architect could create certain conditions or instruments, points, elements, that can inspire people to make good use of them toward a change in their lives.”

- Krzysztof Wodiczko





Context

This thesis reclaims vestigial platform spaces within working stations of the New York City subway as sites for a new kind of library – the Open Library. It is one answer to a question framed by three conceptual pairings: democratization and access, movement and mobility, and interaction and circulation. These are no doubt intertwined and overlapping as permission to access something, whether it is informational or spatial, is useless without both the ability to get to it and to substantively interact with it. Issues of access speak to power, rights, and values. Issues of mobility relate to pace, class, and technology – to name a few. And interaction deals with the effects of the first two, defining what social, environmental and cultural conditions arise out of their intersection. This section is comprised of a discussion of my research on the cultural conditions that provide the context in which this design project might be read.

The City

There are a number of ways to look at the nature of cities, and each has different merits and limitations. Despite these differences, the assumption of a relative condition of density is primary to most, and this density begets a number of conditions which each lead to a great many observable phenomena that characterize city life. Taking the precondition of density as point of departure, it follows that in the city, we are exposed to more people and this creates a condition of increased interaction with a more diverse body of inhabitants than we would in a rural setting. The intensity and nature of these interactions among people in cities has been outlined by numerous theorists over the years. The goal here is only to briefly recapitulate these analyses to the extent that the relationship between subway, city, and library can then be explicated.

Certain phenomena that are fundamental to urban life arise out of the density of an environment. From it and the propensity toward movement and interaction, we tend to have greater allegiance to time than space.¹ That is, “[t]he crowd sets the pace. The individual must hurry with it or be pushed aside.”² The

1 Meyer, Julie. “The Stranger and the City.” *American Journal of Sociology*, Vol. 56, No. 5 (March 1951) 476-483.

2 Woolston, Howard. “The Urban Habit of Mind.” *American Journal of Sociology*,

shear volume of inhabitants also leads to a condition of increased intellectual stimulation.³ As a result of this preponderance of pace over place, the city is a space of movement. Further, the multiplicity of inhabitants also grants an individual freedom of movement, which makes the city a dynamic entity in which the precise scheduling of interaction allows for a densification of time that is commensurate with that of place. In such an environment, the stimulation can overwhelm the differentiating perception of the individual and, when coupled with the ubiquitous of financial exchange, this begets a kind of 'graying' of his or her intellect that has been characterized as a blasé or matter-of-fact attitude.⁴ In the face of such over-stimulation and commerce, a proclivity toward an objective rather than subjective mode of thought inevitably follows.

The multitude of people also leads to toward the phenomenon of specialization both in terms of labor as well as character.⁵ Density precludes a collection of generalists as well as sameness. And so, in order to make room - physically, intellectually, and occupationally – we must specialize. We then of course become mutually dependent. To ensure the necessity of our own functioning in the conglomeration of people that is the city, we differentiate ourselves from each other, taking solace in our doing what no one else is. This specialization is an instinctual response to the complexity and distributed character of the city. Newly differentiated from our neighbors yet still dependent on them, the dialectic of self and other arises, and becomes the preeminent personal negotiation which structures life in the city.

Vol. 17, No. 5 (March 1912) 602.

3 Simmel, Georg. "The Metropolis and Urban Life." 1950 as reprinted in Sennett, Richard *Classic Essays on the Culture of Cities*. (Appleton-Century-Crofts, New York, 1969). 47 and Woolston, Howard. "The Urban Habit of Mind." *American Journal of Sociology*, Vol. 17, No. 5 (March 1912) 605.

4 Simmel, Georg. "The Metropolis and Urban Life." 1950 as reprinted in Sennett, Richard *Classic Essays on the Culture of Cities*. (Appleton-Century-Crofts, New York, 1969).. 52.

5 Simmel, Georg. "The Metropolis and Urban Life." 1950 as reprinted in Sennett, Richard *Classic Essays on the Culture of Cities*. (Appleton-Century-Crofts, New York, 1969). 47.

The Stranger

These notions of specialization and interdependence are characteristic of what might be the ultimate struggle for each person in a city: finding a personal balance between community and anonymity.⁶ One way of framing this relationship is the concept of the 'stranger.' The stranger is in fact the other main component, added to size and density, needed to make a city. In fact, Jane Jacobs goes to great length to articulate the necessity of strangers to cities by noting that:

“Great cities are not like towns only larger. They are not like suburbs only denser. They differ from towns and suburbs in basic ways, and one of these ways is that cities are, by definition, full of strangers. To any one person, strangers are by far more common in big cities than acquaintances. More common not just in places of public assembly, but more common at man’s own doorstep. Even residents who live near each other are strangers, and must be, because of the sheer number of people in small geographical compass.⁷

While the concept of the stranger can be narrowly defined with respect to geographical origin alone, it may also be expanded more broadly to include aspects of remoteness, otherness, wandering (as opposed to fixity to a time or place). If the city is a “conglomerate of strangers,”⁸ then there is of course a paradox embedded in the relativist nature of this condition which Simmel has explained as follows: “The unity of nearness and remoteness involved in every human relation is organized, in the phenomenon of the stranger, in a way which may be most briefly formulated by saying that in the relationship to him, distance means that he, who is close by, is far, and strangeness means that he,

6 Meyer, Julie. “The Stranger and the City.” *American Journal of Sociology*, Vol. 56, No. 5 (March 1951) 478 (“Social relations are governed by the two divergent aims of avoid identity and establishing cells of community) and Simmel 47 (‘autonomy of individual in the face of overwhelming social forces’).

7 Jacobs, Jane. *The Death and Life of Great American Cities*. (Random House, New York: 1961) 30.

8 Meyer, Julie. “The Stranger and the City.” *American Journal of Sociology*, Vol. 56, No. 5 (March 1951) 476

who is also far, is actually near.” Simmel goes on to note aspects of objectivity (arising from distance), mobility, and generality or generic-ness as other aspects inherent to his concept of the stranger,⁹ a concept that is shared in large part and applied by Meyer in her thinking about the city.¹⁰

This expanded concept of the stranger is a powerful lens through which to look at the city as it provides a way of thinking about the relationship of self to other, an other that one might never come in contact with were it not for the city’s density, movement, and scale. The stranger is a condition that is present in every human relationship within the city. Because of the sheer number of inhabitants and groups or communities that are formed from them, belonging to one group means excluding or estranging oneself from others. Because the membership and function of communities often overlap, conditions of strangeness and familiarity are never transparent. Thus, each individual experiences the anonymity of estrangement and the identity of belonging, and the struggle to find this balance might be thought of as the fundamental aspect of urban life. That is, to paraphrase Simmel: “The deepest problems of modern life derive from the claim of the individual to preserve the autonomy and individuality of his existence in the face of overwhelming social forces, of historical heritage, of external culture, and of the technique of life.”¹¹

The confounding of the distinction of self and other that is embedded within the notion of the stranger can also represent an inherent connection of oneself to others. Julia Kristeva extends Freud’s notion of the uncanny in this regard. Freud posits that when a previously repressed familiarity reemerges as strange, we experience the uncanny.¹² By extension, Kristeva concludes:

“[t]he foreigner is within us.” Because “[d]elicately, analytically, Freud

9 Simmel, Georg. “The Stranger” in Kurt Wolff (Trans.) *The Sociology of Georg Simmel*. New York: Free Press, 1950. 402 – 405.

10 Meyer, Julie. “The Stranger and the City.” *American Journal of Sociology*, Vol. 56, No. 5 (March 1951) 476

11 Simmel, Georg. “The Metropolis and Urban Life.” 1950 as reprinted in Sennett, Richard *Classic Essays on the Culture of Cities*. (Appleton-Century-Crofts, New York, 1969). 47.

12 Freud, Sigmund. “The Uncanny.” *The Standard Edition of the Complete Psychological Works of Sigmund Freud*. Ed. & trs. James Strachey. Vol. XVII. London: Hogarth, 1953.

does not speak of foreigners: he teaches us to detect foreignness in ourselves Freud brings us the courage to call ourselves disintegrated in order not to integrate foreigners and even less so to hunt them down, but rather to welcome them that uncanny strangeness, which is as much theirs as its is ours.”¹³

From this negotiated fusion of self and other, a universal connectedness follows as does an aspect of commonness, even if it is in difference. And so, “[b]y recognizing our uncanny strangeness we shall neither suffer from it nor enjoy it from the outside. The foreigner is within me, hence we are all foreigners.”¹⁴

These theories of the stranger form the conceptual underpinnings of a number authors and artists. Toward this end, the work of Polish-American artist and designer Krzysztof Wodiczko provides powerful insight on the role of the stranger in the city and useful precedent for projects which position themselves as ‘interventions’ into an everyday context. Wodiczko typically works with a particular group of people estranged from society in some way such that they have been denied speech and thus power. Among these groups are immigrants, victims of domestic violence, and victims of military-induced trauma.¹⁵ His work then is positioned as device for empowering them, often by rendering visible the stranger within the self through projections, installations, and devices. Calling this position “interrogative design,” Wodiczko describe the approach as “....seeing design as a process of uncovering needs and responding to them in hope that by the process of responding to them, and articulating them in public, we may contribute to conditions (of the social consciousness) that will render those needs obsolete.” The imperative, according to Wodiczko, is “to work in the world not on it.”¹⁶

We can thus understand the city as an embodiment of the dialectical conditions of the stranger. In it, we situate ourselves along a series of spectra.

13 Kristeva, Julia. *The Portable Kristeva*. Ed. Kelly Oliver. (Columbia UP, New York: 2002) 290.

14 Ibid. 290.

15 Info on Wodiczko’s work can be found at: <http://web.mit.edu/vap/flash.html> or *Critical Vehicles: Writings, Projects, and Interviews*. (MIT Press, Cambridge: 1998).

16 Interview with Ginger Nolan as published in *Thresholds 29: Inversion*. (MIT/ Kirkwood, Cambridge: 2005) 83.

We balance specialized separation with mutual interdependence; movement with fixity; the subjective with the objective; anonymity and community; and the self and the other. This balancing act is played out in streets, stadia, elevators, and doorsteps. The paradoxes embedded within many of these dialectics contribute to the complexity of city life - a complexity that is a fecund site for intervention in order to re-present the everyday and the overlooked in order to render visible modes of interaction, social relationships, and shared values.

Access

Another aspect of the city dealing with interpersonal relationship is access. Access has many dimensions, among them, cultural, economic, physical, and intellectual. Understanding these and how they relate to each other provides a telling picture of the urban environment. How egalitarian is it? How much opportunity is there? How separated are people and activities? These are but a few of the questions of access by which one might understand and compare modern cities. Whether one looks at the city from the point of view of its borders, its complexity, its form, or its public space, access provides a common thread, an index.

Democracy is a concept predicated on access. In order for the people to govern, whether directly or through a system of representation, they must have access and so relate to each other as citizens in a public realm. Rather than consolidate power in the hands of a few, democratic institutions distribute it among many people and construct a framework for them to relate to one another to discuss, debate, and decide. Whether one believes that consensus reached through such debate is just or exclusionary,¹⁷ that its paradigm is one of wide distribution leading to specific moments of consolidation is apparent. Because access and control have more than simply political dimensions, the notion of democratization can apply to other realms, and more generally signify a distributed paradigm in which what could be done by the few is done by the many and is then combined through some agreeable, overarching framework.

¹⁷ This is the debate between 'consensus' as defined in Jurgen Habermas *Structural Transformation of the Public Sphere* vs. 'dissensus' as defined in Chantal Mouffe's "Pluralism, Dissensus, and Democratic Citizenship" (available here: <http://www.rizoma.ufsc.br/pdfs/chantal.pdf>)

Public transit and public libraries are both democratizing institutions: the former grants physical access so that anyone can affordably get anywhere while the latter provides intellectual access to the knowledge and cultural products it stores and organizes. These institutions have the capacity to shape cities by facilitating circulation and exchange of people, objects, information, and knowledge. As places of exchange, cities have always been about production and consumption – and it's fair to say they always will be. These two forces are entangled and require a delicate balancing act that has fluctuated over time. The less dependence one has on others, the easier this balance is to strike; for instance, the subsistence farmer grows what he and his family need to eat. However, once he realizes he needs something he cannot produce for himself, then a surplus must be grown so that trade can happen, and from this dependence, complexity is born. With whom will he trade, when, and for how much? This simplistic case becomes baffling when one realizes that in the modern city, such exchanges and their concomitant decisions, interactions, and relations can occur in the millions everyday. The multiplicity and specialization of the modern city beget interdependence¹⁸ and further complicate the balancing act between production and consumption.

Information and Access

While it tempting to think of this phenomenon solely in material terms, it is important to understand that knowledge is an entity requiring the same kinds of balancing acts and that physical products are inextricably tied to intellectual products; for instance, the latter often provide the instructions by which the former are made. At present, there are two conflicting societal trends, arising principally from technological change, that represent this struggle: we are fast becoming a global culture of consumption, a cut-and-paste society of consumers. However, producing things and ideas is also becoming more and more distributed and democratized. Thus, contemporary connectivity enables us to use more and more from further and further away, but it also allows more and more people to be producers as well.

18 Simmel, Georg. "The Metropolis and Urban Life." 1950 as reprinted in Sennett, Richard *Classic Essays on the Culture of Cities*. (Appleton-Century-Crofts, New York, 1969) 47.

In light of these cultural trends, the intertwined conditions physical and intellectual access need to be addressed at once so that new conditions might be born of their resonance. However, understanding how the two relate is essential. Access seems to be more intuitively understood in physical or spatial terms than it is when applied to the world of knowledge and information. While it is tempting to correlate the two, it is important to understand that in the physical sense, access might be thought of in terms of 'ability' while in the intellectual sense; it can be considered a function of 'permission.' If the former is one's ability to get somewhere, the latter is one's right to be there. To clarify: just because one has the key to room does not mean it is acceptable for that person to enter it. Indeed, much of the current controversy concerning copyright in the digital world stems from the conflation of physical and intellectual property.¹⁹

The 'ability' to access informational products is a bit easier to understand than the 'permissions' allowing the use of a work. Preventing physical access to information is not unlike keeping someone out of a room – it is achieved by what is analogous to 'mechanical' means such as DRM (Digital Rights Management) software that prevents copies from being made, files from being converted between formats, and/or various other restrictions such as time limitations and expirations from being lifted. As will be shown later, like their legal counterparts that can have unintended consequences of stifling creativity despite its many benefits, so too can these 'mechanical' restrictions have unintended negative repercussions. A recent incident with Sony/BMG DRM is a case in point. Software called XCP (extended copy protection) was installed on Sony/BMG store-bought compact disc to prevent their being ripped to .mp3 or other music files to be used in portable music player (legally) or shared online via P2P software (likely illegally), for instance. However, the DRM software created substantial and unpublished security vulnerabilities to the users' computers, which when publicly exposed, forced Sony to apologize, recall all affected music, and publicly lose face as well as trust among consumers.²⁰

Turning to access to informational products in the legal sense, it is

19 This forms one of the basic tenet of Lawrence Lessig's critique on copyright law in *Free Culture: The Nature and Future of Creativity*. (Penguin, New York: 2004).

20 Refer to http://www.eff.org/news/archives/2006_01.php#004302 for coverage of the SONY/BMG DRM incident

important to note that current copyright and intellectual property law have been defined over the years by a number of acts in the US (some based on foreign precedents such as the British Statute of Anne 1710) as well as international Conventions and other agreements between sovereign nations.²¹ These Acts were created based on Congress's powers as defined in Article I of the U.S. Constitution, stating that "The Congress shall have Power To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."²² Copyright protections were thus created for the purpose of protecting and encouraging creative production in the arts and sciences, and they apply not to an idea or process but rather to its form of material expression. This is made manifest in granting the author of a work such as a musical composition, a literary work, an artwork, or a piece of architecture certain exclusive rights – rights which were originally afforded to publishers according to the aforementioned British statute. These rights include: reproduction of the work, the ability to make derivative works, distribution of copies, performance of the work, broadcasting the work, and the transfer of any of these rights to others.²³

Just as these various acts define certain rights and rules, they also define certain limitations to the exclusive rights, such as the secondary transmission of a work as in the resale of a copyrighted book in a used book store. Other limitations include reproduction in libraries, educational usages in the course of teaching and research, and accounting for the ephemerality of certain recordings and media. The exception or limitation that is perhaps the most difficult to define is what is termed 'fair use.' One fair use is, for example, using a copyrighted work for teaching, research, and scholarship. Though there is not an easy, transparent standard for what constitutes fair use, there are four basic considerations: the character of the use, the nature of the copyrighted work, the relative amount used with respect to the work as a whole, and the impact of the

21 <http://en.wikipedia.org/wiki/Copyright>

22 The United States Constitution. Article 1, Section 8, Clause 8.
<http://www.usconstitution.net/const.htm>

23 For a concise summary of these rights, see <http://web.mit.edu/ipcounsel/copyright.html>

use on the market for (and future of) the work.²⁴

The result of this body of copyright law is that there are a variety of different uses permitted with respect to a particular work, and these uses are a function of when and how the work was published, who its author(s) are and if they are alive, and whether copyright was stipulated when the work was published and if it was renewed – though copyright is now understood as a default condition that is granted as soon as work is expressed without the requirements for registration. Accordingly, anything published before 1923 is out of copyright and thus in the public domain. Anything published between 1923 and 1965 is copyrighted initially for twenty-eight (28) years from publication date and can be renewed for an additional sixty-seven (67) years. Anything published after 1978 is copyrighted for the author's life plus seventy (70) years while anonymous works or those published under a pseudonym are copyrighted for ninety-five (95) years from initial publication or 120 years from when the work was created – whichever is less.²⁵

Supporters of copyright law as-is generally seek to equate intellectual property with physical property and argue that without legal protections, such work would not be made.²⁶ However, there is a burgeoning movement of people whom have interpreted the Constitutional phrasing and resulting precedent to mean that the creation of a public domain and creative freedom to build on the past are also embedded within the idea of limiting the time during which these rights are granted. And by extension, current trends in copyright law now run counter to the original intention of the law in that they stifle creativity rather than incentivize it,²⁷ and this makes quite a bit of sense in light of new technologies enabling the information age and potential social and cultural benefits. Stanford

24 <http://web.mit.edu/ipcounsel/copyright.html>

25 Ibid.

26 Note that this also provides (part of) the rationale for extending copyright beyond an author's lifetime, because it should, so the argument goes, be passed down to heirs just as physical property within an estate is or may be property of a corporation that 'outlives' its creator. For additional information, see <http://en.wikipedia.org/wiki/Copyright>

27 For a fairly comprehensive list of the negative consequence of the most recent act of copyright law, the Digital Millennium Copyright Act (DMCA), refer to: http://www.eff.org/IP/DMCA/?f=unintended_consequences.html

Law professor Lawrence Lessig is one of the most vocal and authoritative voices advocating for the reconsideration of copyright and intellectual property doctrine. Paraphrasing Lessig, as articulated in myriad lectures in the past several years: “Creativity and innovation always builds on the past; The past always tries to control the creativity that builds upon it; Free societies enable the future by limiting this power of the past; Ours is less and less a free society.”²⁸

Lessig’s argument is that uses have been increasingly restricted over time²⁹ while possible uses have increased as new technologies arise. When U.S. copyright law began in 1790 it only regulated “... the commercial publication of someone else’s work. It left free the act of transforming, even for a commercial purpose, someone’s work. You could translate it, or abridge it, or take a novel and turn it into a play. Copyright had left free the non-commercial transformation of culture,” and “In the first ten years, 1790-1800, ninety-five percent of published work did not enjoy the benefit of copyright protection at all. Which means non-commercial publishing was still totally free from laws regulation (sic).”³⁰ From 1800 to 1900, the commercial transformation rights were eventually regulated, leaving only non-commercial publication and transformation free. The next increase on usage restrictions happened in 1909 when ‘copy’ was substituted for ‘publish’ which had the unintended consequence of making the restriction technology-dependent since ‘copying’ in art, such as drawing a statue, was permitted while copying a written word through a publishing medium was not, but this did not have significant effects until the technology for ‘copying’ changed. And so around 1970 with the advent of the Xerox machine, the law was expanded, which shrunk the allowable non-commercial publication uses. More recently with the advent of the Internet, so too have non-commercial transformation uses been restricted. Thus, according to Lessig, what was the exception is now the rule: the creative community is forced to argue for a

28 See for example, Lecture by Lessig at the O’Reilly Open Source Conference July 24, 2002 available for viewing at: <http://randomfoo.net/oscon/2002/lessig>

29 *Free Culture: The Nature and Future of Creativity*. (Penguin, New York: 2004) chronicles this rise throughout.

30 Lawrence Lessig. Transcript of lecture and panel discussion entitled “Share/Share Alike” Moderator: Jonah Peretti and Respondants: Joline Blais, Carrie McLaren, Jon Ippolito. November 21, 2003 (see <http://cordova.asap.um.maine.edu/~wagora/w-agora/interviews.html>)

narrow slice of 'fair uses' in order to do in the digital age what was commonly permissible in previous ones, and this stems principally from the fact that digital use is predicated on copying.³¹

Recalling the 'room' analogy earlier, if the Internet grants people the 'physical' access to information, there have been a number of significant developments in finding new ways to provide the 'keys' that grant people, particularly those interested in creative activity, the permission to go into the room. One such movement is the 'Creative Commons' begun by Lessig that offer a series of licences (read: permissions) that allow artists, authors, and musicians various options in terms of licensing their works so that they can specifically define what uses are permitted rather than apply the blanket, one-size-fits-all protections of a copyright.³² For example, this work is published under one such license, by-nc-sa ("By-NonCommerical-Share Alike 2.5), meaning that, so long as the work is attributed, it can be redistributed for non-commercial purposes, and can be built upon with derivative works as long as these works are similarly licensed.

Efforts such as those of the Creative Commons, and those put forward by the Electronic Frontier Foundation³³ seek to expand the collective access to culture by helping to define the terms of use. However, there have also recently been steps to add content to such a commons, often enabled through these new definitions or related ones and these have produced appreciable results. One such development is Open-source Software, software that is collaboratively produced through an iterative cycle of development in which users can become co-creators as a result of freely distributing the software's source code is.³⁴ A related movement is the Free Software Foundation which advocates for a freedom in uses so that such software can be built upon and improved by others, as long as its terms are accepted by subsequent derivatives. This is

31 Lawrence Lessig. Transcript of lecture and panel discussion entitled "Share/Share Alike" Moderator: Jonah Peretti and Respondants: Joline Blais, Carrie McLaren, Jon Ippolito. November 21, 2003 (see <http://cordova.asap.um.maine.edu/~wagora/w-agora/interviews.html>)

32 Refer to <http://creativecommons.org/> for more information.

33 Refer to <http://www.eff.org/> for more information.

34 http://www.opensource.org/docs/definition_plain.php

typically referred to as a 'viral' licensing scheme and is similar to the Creative Commons since it requires derivative works to be licensed identically to their parent works.³⁵

The Library and Access

Beyond works that seek to further an intellectual commons for software, there are also several significant advancements of such a commons specifically for written works and similar cultural product – often under the auspices of creating a 'library.' Project Gutenberg began in 1971 when computer scientist Michael Hart was given what amounts to nearly unlimited spare time to access his university's mainframe computer and conceived of a project to create a digital library whose societal benefit would be commensurate with the value of time he'd been given. What began with Hart's fittingly keying in the U.S. Declaration of Independence, has now grown to include an online collection of about 17,000 freely (usually in the sense of freedom and no cost) available electronic books in 'plain vanilla ascii' format with roughly 2 million downloaded per month.³⁶ Project Gutenberg deals with books that are in the public domain or those whose publishers are willing to make freely available and has adopted what amounts to a 'greatest good, for greatest many'³⁷ philosophy so that books are in the smallest amount and most compatible kind of data format. Though increased restrictions in copyright law have deterred the project scope,³⁸ Project

35 <http://www.fsf.org/>

36 <http://www.gutenberg.org/about/history>

37 This concept is derived from John Stuart Mill's *Utilitarianism*, available online here: <http://www.gutenberg.org/files/11224/11224.txt>

38 Since the project was conceived, terms of copyright restrictions have gone up considerably. In a 1992 statement on the project website (<http://www.gutenberg.org/about/history>), an anecdote was used to illustrate the impact of these extensions – that the likelihood a new book will enter the public domain was then minimal: "Suppose you might be 25 when you read a new book and the author is 50: wait the average 25 years for the author to die (what a thought!*) Now you have to wait another 50 years to have access to that book; it doesn't matter when it was written (unless it is an old one ... before the period the law retro-acted to) ... so you would have to wait (on the average) until you were 100 years

Gutenberg stands as a significant contribution to the commons.

Another project that is dedicated to making content freely available on the internet the Internet Archive located at <http://www.archive.org>. Created in 1996 by Brewster Kahle, the archive was “founded to build an ‘Internet library,’ with the purpose of offering permanent access for researchers, historians, and scholars to historical collections that exist in digital format” with the lofty goal of “universal access to human knowledge.”³⁹ The archive’s mission then is to preserve the internet and other cultural products that were created digitally for the future, in collaboration with other institutions such the Smithsonian and the Library of Congress. Perhaps the best description of the archive, comes from Kahle’s constantly referring to the famed Library of Alexandria, an ancient library whose goal was to have a copy of every book (though at that time the medium was a scroll since book as we now know it – a derivative of the codex- did not yet exist⁴⁰).

A related effort lead by Kahle⁴¹ is the Open Content Alliance (OCA), a recently announced project similar to ‘Gutenberg’ with the goal of creating a digitizing books for the internet and making public domain content freely available and will make available, likely for some fee, copyrighted works whose publishers have agreed in advance. The Alliance, as the name suggest, connects a number of different organizations – many of whom are fierce competitors. It has public and university partners; such as, the Internet Archive,

old. A 25-year-old under the original law would only have to wait for 14 years ... until the age of 39. Quite a difference; between the ages of 39 and 100.” What is even more significant is that the Copyright Term Extension Act of 1998 (also known as the Sonny Bono Copyright Term Extension Act) extended the term 20 years – from 50 to 70 years! So now, if one lives to 100 years, its likely that few of books that will be part of the public domain will have been writing during his or her lifetime.

39 <http://www.archive.org/about/about.php>

40 Bartles, Matthew. *Library: An Unquiet History*. ((Norton, New York: 2003) 25.

41 For additional information on Kahle, including biographical data, refer to a recent *San Francisco Chronicle* article: “A Man’s Vision: World Library Online”by Heidi Benson November 22 2005. Available online at:

<http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2005/11/22/MNGQ0FSCCT1>.

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University of California, Columbia and Rice Universities and the British National Archives, and it has private constituents as well; such as Microsoft and Yahoo.⁴² The OCA represents the “collaborative efforts of a group of cultural, technology, nonprofit, and governmental organizations from around the world that will help build a permanent archive of multilingual digitized text and multimedia content.”⁴³

Two other significant projects to digitize book content predate the OCA, and in effect, paved the way for it by opening up a series of questions the OCA attempts to answer. The first was an effort, announced in 2003, by online book-seller amazon.com to scan 120,000 books (with publisher’s permission) so that their customers could ‘look inside’ but not print or otherwise copy a book to help decide whether or not to buy.⁴⁴ Their investment paid off and is reported to have boosted sales⁴⁵ and, though printing and copying are prevented, has also spurred a series of positive (and perhaps unintended) secondary uses: since a book’s index is usually visible, an online viewer might discover that the work in question doesn’t cover the desired topic or might see a reference to another work of interest, and so on.

The second project is lead by another internet giant, Google, and was announced in 2004 as the Google Print project, now ‘Google Book Search.’ The Google venture was originally confused, in part due to original nomenclature, to be providing a digital library collection similar to Project Gutenberg and the Internet Archive, which in turn created much controversy as they planned to digitize all books – even those currently under copyright. In fact, Google Book Search (GBS) is more like a catalog than a library – at least from the point of view of copyrighted material. The books are displayed online, with Google’s signature targeted advertisements and links to booksellers, in three ways (depending on copyright status and publisher agreements): as snippets of a

42 Hafner, Katie. “Microsoft to Offer Online Book-Content Searches.” *The New York Times*. October 26, 2005. A fuller, more recent list of contributors is here: <http://www.opencontentalliance.org/contributors.html>

43 <http://www.opencontentalliance.org/faq.html>

44 http://www.wired.com/wired/archive/11.12/amazon_pr.html

45 Chris Anderson “The Battle Over Books” November 17, 2005. Available on the web at: <http://www.nypl.org/research/chss/pep/pepdesc.cfm?id=1661>

few sentences, in a few sample pages similar to Amazon.com's 'look inside' feature, and as full-text for books in the public domain or whose publishers have consented. By using these different approaches, Google has provided one answer to what has been called the 'orphan book problem' in which a great many books are copyrighted but out of print.⁴⁶

Where the controversy has erupted and legal actions have been taken, relates to two issues: first, in order to index the books to make a 21st Century catalog, Google must make a digital, text-based copy and this copy could, it is feared, lead to other unforeseen uses and piracy; and second, the copy and the snippets displayed are in dispute as to whether they constitute a fair-use (as Google contends) or a "massive copyright infringement" (as the plaintiff publishers and authors believe).⁴⁷ No matter which side one takes, what is clear is that GBS, like other 'library' projects such as Project Gutenberg, the Internet Archive, and the Open Content Alliance, is granting access to an unprecedented amount of embodied knowledge and is both challenging and pointing out the restrictions to access that are embedded in current copyright and intellectual property law.

The Library

In a sense, these efforts are only the latest step in the history of the library's advancement of intellectual access – its gradual 'opening' over time. The library is a place for people to come together – physically, intellectually, historically. Though one may work in silence, being engaged in an activity in a space where others are doing the same makes a connection on some level and awareness fosters the beginnings of community. Sometimes these connections are direct such as when two patrons discuss a book. One may connect with others in the same space through awareness or, with others through time

⁴⁶ At a New York Public Library Forum discussing Google Book Search, Chris Anderson (Editor of Wired Magazine) cited that: A huge amount of human knowledge is locked up, " that roughly 32 million books exist, 3 million in print, 3 million out-of-copyright and the rest are in a strange, grey area in which they're copyrighted but out of print. This roundtable forum, "The Battle Over Books" can be viewed at: <http://www.nypl.org/research/chss/pep/pepdsc.cfm?id=1661>

⁴⁷ http://www.authorsguild.org/news/sues_google_citing.htm

whether authors or those servings are subject in historical accounts and the like. By distributing knowledge production and blurring the line between makers and users, new possibilities for connection exist. People put a piece of themselves into everything they make. The moment they have an opportunity to share what they make, interaction can occur and community can be built.

The library is deeply embedded cultural institution with a long history in which it has served as the gatekeeper, organizer, and distributor of culture. This role has evolved but has consistently entailed five principal functions relative to cultural product: identification, acquisition, description/organization, making accessible, and preservation. Over time, these functions have become more and more transparent, putting users in increasingly direct contact with resources; such as, the widespread use of 'open shelves' only about 100 years ago. Interestingly, with this increasing transparency of information has come increasing opacity as to the infrastructure of the library as an institution – meaning what's being done in order to create this access is less and less apparent.⁴⁸

The modern library must struggle with key issues that are in fact intertwined: first, the relationship between the physical and the digital, and second, intellectual property policy. The advent of the present digital age, brought on by cheap computing power and data storage media, have created new modes of production and posed new questions about the relationship of information to space. Though no one seems to forecast the disappearance of the physical book anytime soon, the need for paper-based scientific journals is already being questioned and electronically-formatted books are developing rapidly. The web and its instant publishing space have also questioned the need for physical space of interaction and access when it comes to digital information, forcing us to understand which functions, previously exclusive to the library and its collection, are now fulfilled by any web-connected computer.

The advent of the digital age has also brought major questions as to the nature of intellectual property which have stretched our 'one-size fits all'⁴⁹ copyright law to its absolute extremes. Tears in this fabric are quite visible; for example, current legal battles over file-sharing platforms beginning with Napster and continuing with Gnutella, Kazaa, BitTorrent, and the like. The ease

48 Steven Gass, MIT Libraries. Interview 7 October 2005.

49 Ibid.

with which digital information can be copied, transmitted, sampled, and edited distances it from its physical analogues of previous eras; while it is clearly stealing if you take someone's physical property, if you copy his or her digital property, one is somehow in a grey area within our culture. The desire to share knowledge while protecting the rights of its creator are often put in conflict in digital space. This renders the traditional system of 'reader pays' less effective and opens the door for alternative approaches such as 'producer pays' in which the institution funding the teaching or research that generates the copyrighted material recognizes an obligation to share their results and plans accordingly.⁵⁰

Intellectual property issues are also being complicated by the global economy. Our copyright law has been derided frequently of late for being written for a world of atoms whereas now we're living in a world of bits.⁵¹ However, beyond the law's imperfections, there are also issues of enforcement. The ownership of information is eroding in the global economy because piracy is rampant in areas that are not (yet) significant producers of intellectual property. While the West condemns this as theft, this piracy is historically consistent: the entrepreneurial American publishers like Benjamin Franklin exploited British authors like Dickens ad infinitum during the 18th and early 19th centuries until American authors and inventors came into their own and then started worrying about how to protect their new-found intellectual property.⁵²

The question of physical space and intellectual property notwithstanding, the library is still an essential part of the cultural infrastructure of the city. Just as the subway effects the democratization of mobility, the library is an instrument for the democratization of knowledge. The Boston public library, completed in 1895, was the first large public library in the country, deemed a "palace for the people"

50 Steven Gass, MIT Libraries. Interview 7 October 2005. This refers to the fact that in previous eras, either a library or an individual had to buy a book in order for it to be read.

51 This is a phrase commonly used in debates regarding intellectual property. Its origin is unknown to the author and every reasonable attempt has been made to attribute it, without success.

52 This was originally brought to my attention by Tim Anderson of MIT in connection with piracy concerns in China and other rapidly developing regions. Information on its history in the U.S. can be found here: <http://www.slate.com/id/2084960/>

by architect Charles McKim of McKim, Meade and White.⁵³ This intentional alignment of a public library with a seat of power is not accidental. If knowledge is power as Bacon contended, then the library is an instrument of power for the masses. It allows large groups of people to access a greater percentage of the knowledge base, just as mass transit grants access to an enlarged portion of the city, perhaps even becoming so embedded as to have now become a precondition for urban life. If the subway allows you to move your body around freely, the library allows the mind to go on similar explorations. Indeed reading has always been (and will always be) a form of travel itself.

The Subway

If the city is an aggregation of strangers, then the subway is the essence of this condition. The subway is an exaggerated slice of the city, an environment in which there is more intensity, interaction, diversity, and movement than one can find in the world above. This underground world is one of motion and its scale of occupation is minutes and seconds, not hours and days. Confronted by the other in an environment of density and diversity, the subway epitomizes the mandate to navigate between anonymity and community. Deprived of the light, nature, and the built mnemonics above ground, the subway is also an environment of extreme dislocation, disorientation, and artifice. All of these render it as a kind of hyper-urban condition. Since it is often at the extremes where the validity of any assertion is best evaluated, looking at the subway can provide valuable insights into the city and the interactions among people and between people and environment.

As an underground condition, the subway also becomes meaningful as a prophetic space. In her book, *Notes on the Underground*, Rosalind Williams argues that the underground condition and its concomitant artifice render it an inherently prophetic condition. Deftly intertwining factual presentation of technological development with literature, science fiction, and analytic texts on the city, Williams shows how the way we view the underground is telling as to how above ground spaces will be viewed in the future. For example, Lewis Mumford's *Technics and Civilization* was, in large part, a speculation of the future of cities derived from extrapolations of the 'manufactured environment'

53 <http://www.bpl.org/guides/history.htm> (accessed 5 October 2005)

of the mine. And the ground served as the datum for H.G. Wells's futuristic and allegorical novel *The Time Machine* which epitomizes class wars by pitting the above-grade 'Eloi' against the 'Morlocks' who dwell in an artificial habitat below grade. On this prophetic nature of the underground, Williams writes:

"...narratives about underground worlds have provided a prophetic view into our environmental future. Subterranean surroundings, whether real or imaginary, furnish a model of artificial environment from which nature has been effectively banished. Human beings who live under ground must use mechanical devices to provide the necessities of life: food, light, even air. Nature provides only the space."⁵⁴

Thus, underground, as an exaggeration of the artifice and social dynamics above-grade, can offer insight into future conditions.

Williams also notes that, in addition to serving this prophetic function, the underground also contributes to the deeply embedded cultural metaphor which associates knowledge with depth, an association that was not only just demonstrated here but will also form the basis of a proposed series of interventions within the subway itself. As a result of geological, paleontological, and archaeological work, "excavation became a central metaphor for intellectual inquiry in the modern age,"⁵⁵ and this stands, ironically, in contrast to previous associations of knowledge and understanding with light, one of the very qualities whose absence defines the underground condition.

The relationship of subway to city is formed not only as a function of it being a hyper-urban condition and its underground-ness, but also from the physical experience of the city as structured and mediated by the subway. The subway is, by necessity, a network. It features redundant and crossing paths, multiplicity, points of intersection, and a loose organizational structure devoid of most any kind of hierarchy. This network 'feel' is crucial for the people because they are granted multiple ways to get most places and therefore have a freedom of movement that is fundamental to city life and in some ways even more of a choice than the street grid above grade can offer.

Though the experience of the city through a subway system is structured by this underground network which connects one place to another,

54 Williams, Rosalind H. *Notes on the Underground : an Essay on Technology, Society, and the Imagination*. (MIT Press, Cambridge, 2002) 4 – 17.

55 Ibid. 23.

the understanding that results is quite fragmentary. Disassociated from the light, orientation, and built mnemonics above, subterranean transportation environments compel us to experience the world as discrete stops which we are then forced to form into a larger mental framework. Over time, the result is a kind of mental mapping of the city in a network of loosely-related nodes, each formed in concentric circles that are sized by how far we need or want to venture out. Activity, habit, and happenstance help construct this network, but our experience is structured through an understanding of centers and edges. Some of the most interesting experiences in the city result not from our clear understanding of these terms, but from a kind of a productive ambiguity which situates us somewhere between center and edge. In this in-between zone, we are active interpreters of the city.

On a subway map, each stop is a point, a point around which activity, people, and memory pivot. As such, it is a center, one that may have both centripetal and centrifugal force. But, with all that is revolving around it, this point has a sphere of influence; for example, communities can forge their identities in reference to subway stops and neighborhoods form around them. Once a number of stops or centers are considered, their areas might overlap and intersect as wave patterns in ponds do, producing new zones to be assimilated into and challenge our mental mapping of the city. Because these points are part of a larger network, they might also be edges, serving as boundaries beyond which we chose not to venture.

Edges have an embedded ambiguity and a reflexive definition. An edge may be the boundary of something as well as that incisive quality which penetrates such a limit. On the subway, an edge might equally be a terminus station or one's comfort zone around a particular stop. So, an edge can be both a border as well as zone adjacent to one. It can even be the condition of occupying such a zone, in the case of being 'on edge.' It is thus a condition that requires iterative interpretation.

Experiencing the city from underground is constituted by this mental mapping of points and lines that form the subway's underground network. This interpretation can be thought of as the search for centers and edges, and the ambiguity between them forces us to play active roles in the formation of this experience. When the conditions are clear – at water's edge, at the center of a plaza, or below a dome's oculus – we are passive observers of the environment.

But, if for example after removing the subway's blindfold and venturing into the city, we force ourselves to infer connections between disparate experiences, to find legible edges and transitions, and to define our own centers and edges, then we discover and construct the city for ourselves.

Not only does this underground network shape our understanding of the city, but it also seems to akin to a mode of contemporary thought as well as the physiology behind it. Though the mind is commonly regarded as the last scientific frontier within the body, its mysteries having not yet been completely unlocked and explained away; it has long been known that the basic structure of the physiological component, the brain, is made of a network of neurons which create pathways for electrochemical charges to move and to create thought. This neural network has been the subject of great interest for the design of powerful computers that might be able to similarly leverage the multiplicity, redundancy, and efficiency of such a system by emulating this neural net in the silicon space of the microprocessor.⁵⁶

More significant than this physical similarity between the physical structure of the mind and the networked infrastructure like the New York subway, is that the contemporary mind seems to think much like the subway works. The ubiquity of the internet, the frenetic pace of city life, a collective lack of attention – who is to say what is at the root of this phenomenon – but, what is clear is that now more than ever our way thinking is more about movement than fixity, about considering multiplicity rather than singularity, and bouncing between points in a field of ideas rather focusing on one of them. Current modes of thought seem to be dictated by notions of network, cluster, and web rather than grid or line, for example. This renders the mind more like a pinball bouncing between ideas and conditions than a coherent whole made up of discrete parts with static relationships to each other. To put it another way, we navigate the mental space of the mind, in much the same the way we navigate the physical space of the subway.

This navigation of the physical space of the subway, a space of strangers, is characterized by interactions among people and between people and environment or artifacts as we negotiate between anonymity and identity. These interactions can be readily observed in five minutes on the subway, a

⁵⁶ Kurzweil, Ray. *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*. (Viking, New York: 1999).

space that is estranging and unifying all at once. At rush hour, we are brought in close proximity to perfect strangers. The closer we get, the more we are compelled to lean and look away in order to avoid confrontation. Though the boundaries of personal space shrink below-grade,⁵⁷ once these bounds are broken, we are aware of the sensitivity of the other. So, though we are closer together physically, we are emotionally and mentally further apart. The converse is also true in that even when entering the subway with a good friend, one is bound to be estranged from him or her. The proximity of others precludes the conversations one might otherwise have. Friends might also be forced to speak across an aisle, again separating what one can say from what one wants to say – a kind of repression. Thus personal privacy is invaded and eroded by the social and physical contexts of the subway.

Another interesting example of personal interaction in the subway has to do with typical seating patterns. That the subway forces people to interact with and indeed confront each other more frequently and in greater proximity than above grade is evidenced in the way people tend to sit within the subway. During times when seats can be chosen, it is evident that in the middle of a row of seating, people tend to avoid sitting directly across from a stranger, producing a kind of alternating patterns of people from side to side. However, since physical proximity seems to outweigh visual confrontation, people will quite often seek out the edges of a row and its security and insulation from others (on one side), regardless of whether someone else has done the same and is facing him or her from across the car.⁵⁸

57 To see these differences, look, for example, at the typical spacing between strangers on a park bench with those sitting in a subway car. Within the subway, regardless of the idiosyncrasies of the seating construction and arrangement, personal spatial boundaries have shrunk. Another example of this is the acceptance of a system of people who help stuff riders into the Tokyo subway, as system which reveals the active and context-dependent construction of social norms. It is okay for someone to squeeze into you in the car so long as he or she was pushed in by someone in uniform wearing white gloves.

58 This a personal observation that occurred to me over a year ago as proven to be the case more often than not based on my continued observations and those of others. MIT Visual Arts student Oliver Lutz has also proposed and partially implemented an interventionist artwork entitled “Agonistic Subway” in which he altered the seat color of two opposing subway seats in order to provoke a

It is important to note that proximity within a car does not necessarily beget interaction. Simmel has noted that as early as Parisian street car in the 19th C, a completely new form of social awkwardness arose in that people sat across from one another without necessarily engaging conversation, an example of visual interaction without its previously coupled auditory interaction.⁵⁹ Benjamin has extended this observation by noting that literature was introduced to abate this awkwardness and recreate a wall of sorts between riders,⁶⁰ printed matter might be introduced in the subway but might offer the option to separate but might also allow from connection as riders engaged in similar activity, cultivate, and awareness of it, and then have some common ground which might serve as a platform for interaction.

As an underground space, the subway is a prophetic condition, and so the potential to effect change in the public realm both above and below granted by this context comes with certain responsibilities. On a subway platform, there is a diverse mix of people now matter how it is sampled: age, race, class, geography, personality. However, access is nothing without interaction. The opportunity to share what one has made whether an original work or a commentary on or experience of someone else's, creates the opportunity for substantive interaction and connection among people. Another problems with below grade is the anxiety associated with standing still, foreshadowing what is to become, if it hasn't already, above ground and indicating the degree to which the city is about pace more so than place. However, by introducing programs and creating opportunities for interaction – with people, with artifacts, with knowledge, with the environment this anxiety might even be abated and the status of the 'underground' repositioned.

The underground has always had a dual nature. It is both a place of growth and decay. It is where we put things of value for safekeeping, but also

dialog between the seats' occupants facing each other. This work showed that the color change made people more likely to sit across from each other with tends to support my observations about seating and confrontation. Information on Lutz's project can be found here: <http://www.mit.edu/~olutz/subway.htm>

59 Benjamin, Walter. *The Arcades Project*. Translated by Howard Eiland and Kevin McLaughlin. (MIT Press, Cambridge: 1999) 433.

60 Benjamin, Walter. *The Arcades Project*. Translated by Howard Eiland and Kevin McLaughlin. (MIT Press, Cambridge: 1999) 447.

where we put our waste. Rather than interpreting the movement of reading to the underground as an act of concealment, as if political and power dictate that certain content and certain content much be suppressed and concealed, the positioning of the ground as a place of privilege might become the prevailing definition. Lewis Mumford characterized the underground principally by its artificiality, noting that its existence as a mechanically produced environment was its defining trait. However, because the underground can be a place of life as much as it can be one of death, I might be repositioned as a place of value, connectivity, passage, etc ... Where people connect to each other like roots, creating a network of activities and associations – with people and with artifacts and environments – often not possible above grade. this is because the rules change below ground - there is a shrinking of personal space there and this is another of the prophetic aspects: if can assume that our urban spaces will continue to grow more and more dense, then this collapse of personal space is eminent above grade too. So, just as most will not hesitate to sit between two strangers on the subway bench, this might soon become commonplace above as well (whereas now this would be socially unacceptable if it happened on a park bench, for example).

Beyond acting as a prophetic space, structuring the way we think and understand the city, and affecting our interactions with each other and the environment, the subway effects a democratization of mobility. Without having to own a car (or in early times, a horse and buggy), people can get where they need and want to. This access translates into potential for greater quality of life. The subway is about access. It is about what you can get to, how fast and easy it is to do so, and how much it costs.⁶¹ It is also about connecting places and people by mechanical means that would have otherwise been too separated to be strongly related. In fact, architects such as Rem Koolhaas have observed that

61 Interestingly, that one can travel for one flat fee in New York further contributes to this democratization as it amounts to a progressive tax. Whereas in systems like Washington DC in which the fare is a function of distance traveled, in New York everyone pays the same fare. Though this may seem a regressive tax at first since everyone pays the same fee and this equates to a larger fare relative to lower incomes, because lower socio-economic classes tend to ride longer, the flat fare is in fact to their benefit and compensates for the increased relative percentage.

the function of the elevator within the tall building is akin to the subway beneath the city, enabling disparate programs, spaces, and activities to be connected simply by mechanical means rather than through an intentional design or physical proximity.⁶²

Using observations of everyday phenomena to understand larger questions about society and environment has powerful precedent in the work of Sigmund Freud. Freud examined the everyday, the overlooked, and often the dismissed⁶³ in order to develop psychoanalytic techniques which have become so deeply embedded in western culture that it is nearly impossible to look at the world without them. He was able to discern from slips of the tongue that the mind is continuously engaged in navigating a field of mutually interfering intentions through a filtering process of repression.⁶⁴ This notion of repression was then extended once it was clear, having failed with hypnotism, that it is only through resistance that progress (toward reversing repression) can be made. Thus begins the picture of life as a compromise between instinct and morality, and hence our discontentment at deviating from the former in order to satisfy the latter.

The relation of subway to city is immediate and everyday but it is also exceptional and incisive. The space of the subway is an intensified version of the city whose underground character forecasts what is to come above ground. It structures our understanding of the city and provides a metaphor for mental processes for understanding. It is a space of strangers whose daily interactions reveal larger societal truths. This strangely familiar environment thus connects people and effects the democratization of mobility among them.

The New York Subway

The New York subway opened on October 24, 1904, the result of an

62 Koolhaas, Rem. *Conversations with Students*. (Princeton Architectural Press, New York: 1996).

63 Freud referred to this as working with "...the dregs, one might say, of the world of phenomena" in Freud, Sigmund. *Introductory Lectures on Psycho-Analysis*. Trans. and Ed. James Stachey. (Norton, New York: 1989) 31.

64 Freud, Sigmund. *Introductory Lectures on Psycho-Analysis*. Trans. and Ed. James Stachey. (Norton, New York: 1989) 51.

innovative partnership between forward-thinking government planning agencies and prominent entrepreneurs.⁶⁵ It grew out a response to the ever-increasing density⁶⁶ within the city which was particularly evident in the street, where various forms of transit such as horse and buggy, pedestrians, and street cars were competing for the same space of transit. This congestion had long since been the impetus for inventions and experiments, among them a pneumatically-powered, experimental subway inspired by mail tubes and built in 1870 as well as several above-grade solutions which would evolve into elevated train systems throughout the city and predate the subway.⁶⁷

At its inception, the subway consisted of one line running from North/South from City Hall until running East/West along 42nd St and then North/South under Broadway and continuing up to 177th Street on the West side of Manhattan Island.⁶⁸ Though predated by the London Underground by forty-one years and Boston's system by seven years,⁶⁹ the New York subway was an innovative system which featured local and express tracks, technological advanced steel and wood composite cars, and an efficient cut and cover construction system which was then adapted according to site conditions – sometimes resulting in an above-grade elevated track and at others as tunnels below the surface and eventually under bodies of water.

Overtime, numerous lines have been added to this original one that was built by the Interborough Rapid Transit Corporation (IRT), given to the city, and

65 Diehl, Lorraine. Subways: The Tracks That Built New York. (Clarkson Potter, New York: 2004) 24 and Cudahy, Brian. The New York Subway, Its Construction, and Equipment. (Fordam UP, New York: 1991) 3.

66 The crowding was the result of intense immigration to the city, which would eventually see 1.3 million immigrants flowing through Ellis Island in 1907 for example (Diehl 61) and would render New York's Lower East Side the most densely-settled area on record anywhere with an estimated 9000 people per acre (Cudahy 3).

67 Diehl, Lorraine. Subways: The Tracks That Built New York. (Clarkson Potter, New York: 2004) 10-18.

68 Cudahy, Brian. The New York Subway, Its Construction, and Equipment. (Fordam UP, New York: 1991) 27.

69 Diehl, Lorraine. Subways: The Tracks That Built New York. (Clarkson Potter, New York: 2004) 12.

then leased back from them so that its operation would offset its construction costs.⁷⁰ In 1913 a competing company, the Brooklyn Rapid Transportation Company (BRT), opened subway lines that extended from Brooklyn into Manhattan which was quite fitting given that when Manhattan, the Bronx, Brooklyn, Queens, and Staten Island were consolidated as New York City in 1898, Brooklyn was the second-largest city in the nation. The BRT was later renamed the Brooklyn-Manhattan Transit Association or BMT. Until 1925 the BRT and IRT continued to add subway lines throughout the city as private builders who then operated this public infrastructure for profit. At that time, New York then embarked on building its own subways, the Independent Lines (IND). In 1953, the three systems were then unified under the auspices of one public agency, the New York City Transit authority.⁷¹

This three-part construction history is so deeply embedded that it greatly contributes to the identity of the subway and is often still used in casual conversation today, more than fifty years after the systems' unification.⁷² There has also not been a subway line added in about the same time period.⁷³ These two facts are fundamental to the identity of the subway. Firstly, because no lines have been added and the majority of the system is sixty to 100 years old, the subway has the character of a kind reasonably efficient antique whose updating, improvements, and sophisticated cars can never compensate for its age. Secondly, while New York's subway is an interconnected network of many

70 Cudahy, Brian. Under the Sidewalk of New York: The Story of the Greatest Subway System in the World. (Fordham UP, New York: 1995).

71 <http://mta.info/nyct/facts/ffhist.htm>

72 The IRT lines today are numbers 1-7 and S. The BMT lines are N, R, L, J, M, Z and parts of the B, D, F, and Q lines. The IND lines are the A, C, E, and G lines and parts of the B, D, F, and Q lines as noted here: <http://www.nycvisit.com/content/index.cfm?pagePkey=354>

73 New Yorkers are patently aware of this fact, and more recently, subway riders are constantly reminded of it through the MTA's own public awareness campaign for the November's coming Transportation Bond Act which hope to build the "first subway line in over 60 years," the ill-fated 2nd Avenue subway (or T line) which was planned as early as 1929 and begun in 1972 only to be abandon due to financial woes (Diehl p. 77). Information on the Bond Act can be found here: <http://www.mta.nyc.ny.us/mta/news/news-room/bondact.htm>

different lines built over a roughly forty year period, this network is extremely heterogeneous and by no means unified. Differences in the stations, cars, and routing which arose from the three different systems dominate the identity of the overall system, rendering it an amalgamation of differences and similarities that is played out physically, geographically, and historically.

These two fundamental aspects of the system's identity are perhaps most visible in the vestigial platform spaces within the system. These spaces that have been left unused as a result of planning shortcomings, technological development, population shifts, and service changes. As a result, at various points within the system, there are entire platforms that are hidden just behind the ubiquitous white-tiled walls of the subway. There are also unused platforms which are in plain sight; spaces just on the other side of a set of tracks or two, but rendered inaccessible only due gates, grating, or sometimes just a chain across a staircase.

While there are ten stations in Manhattan that have abandoned platform spaces, a selection of one from each of the three entities that built the system affords the opportunity to recall this important moment in New York's history, when the city became about movement and mobility in both the social and physical senses. The history of these sites is varied as the entities which constructed them – each one the product of a unique set of circumstances that shaped its form and memory over time.

Brooklyn Bridge Station was one of the 5 original express station on the 1904 IRT line, along with Union Square, Grand Central Station, West 72nd St., and West 96th Street. It was built with two side platforms that accessed only local trains and two island platforms, each one accessing both local and express trains in either the uptown and downtown/Brooklyn directions. These four platforms were connected by a transverse mezzanine bridging laterally across the tracks and platforms, with entries at both ends. The side platforms were rarely utilized because the public (to the surprise of the management) found the island platforms superior in granting access to local and express trains across the same platform. Around 1910 trains were lengthened to ten cars and rather than extend the unused side platforms, they were simply walled off, in some cases with the old platform edge still visible. Since that time, a small portion of one side has been filled with electrical equipment; the balance sits vacant, a time

a ninety-five year time capsule of sorts.⁷⁴

The Canal Street station opened in 1913, and is located along the (J), (M), and (Z) at the northern border of Chinatown lines. It is similar in configuration to many of the stations along those lines which run from northern Brooklyn and either terminate in lower Manhattan or continue to the southern tip of Brooklyn. These stations typically have two island platforms, each between a local and an express track with a thick structural wall between the two express tracks. The main differences result from Canal serving as the express terminus previously and that the two halves of the station were finished differently with the West side finished using tiled columns and the East side with bare steel. In 1967, trains terminating at Canal Street were discontinued as a result of population shifts in Brooklyn and the addition of (L) train in beginning in 1928. Rather than run one line on the outside of each island platform, the two were consolidated to the Western side in 2003, leaving the East side completely unused and largely hidden from view after gaps in the structural center wall were filled.⁷⁵

Located at the southwest corner of Central Park, the 59th Street station is heavily trafficked and strategically located. It is also the intersection of the (1), (2) and (3) lines running beneath Broadway with the (A) (C) lines running under Central Park West and Eighth Avenue. As part of the IND service, the (A) and (C) portion of the station, which opened in 1953, was built with three island platforms such that the two express tracks would surround the middle island and thus allow doors on both sides of the car to open during rush hour. While this originally made a lot of sense, technological developments in the car made the simultaneous opening of both sets of doors difficult and then nearly impossible. The conductor had to move between cars to two different control booths to open both sides, and this ultimately slowed down the train operation. Use of the center platform was discontinued in 1981, and it now sits in plain sight and identical to the adjacent working platforms but for an inconspicuous lack of benches and a simple chain across the stairs leading down to it.⁷⁶

The New York subway is a collection of difference within a system that acts as a kind of working antique in many ways. Its history is that of different

74 <http://www.columbia.edu/~brennan/abandoned/brooklynbr.html>

75 <http://www.columbia.edu/~brennan/abandoned/canal.html>

76 <http://www.columbia.edu/~brennan/abandoned/59st.html>

and competing political and economic interests exercising their wills on the system which has resulted in a repetitive yet idiosyncratic character. This is an identity that has not changed much over the past several decades as the service has remained essentially the same with only major upgrades visible in the cars, rendering them as beacons of modernization within an older system. The disconnect between modern cars/configurations with antique tracks and stations has also left unused pockets within the system, and these vestigial spaces are ripe with potential to renovate the subway physically and intellectual with their reclamation with the introduction of new a cultural program.

The Library and the Subway

The coupling of these two infrastructures by installing library as cultural program within the subway's vestigial spaces raises myriad questions. What might a library in the subway be or any underground library for that matter? Where might its fundamental basis be found? Though these questions can never be completely answered, the underground-ness and distributed character of the subway can begin to provide clues. If one accepts the notion that the underground is a prophetic space, then the underground library must address a nascent mode of thought and leverage the subway context to both understand this thinking and utilize it as the organizational basis for a distributed and networked type of library. Perhaps such a library could create a bridge between the physical and the digital because people may already move around the physical space of subway in a manner and pace akin to how they navigate digital space online.

What are the characteristics of these analogous physical and digital movements? First, there is an increasing emphasis on choice, an inherent aspect of the city. This choice occurs within network rather than grid space, and shifts the burden of active intellectual construction to the traveler rather than the creator. Choice means that the path a person, an object, or an electronic signal will take is unpredictable (due to redundancy and multiplicity) and from this, the circulatory system gains a kind of efficiency, albeit a counterintuitive one, in that the redundancy of paths allows a certain responsiveness in the system so it can find the quickest route. Out of choice also comes a negotiation between uncertainty and prediction. Though typically granted too much latitude in its application to everyday situations, the uncertainty principle from quantum

mechanics can, at the very least, be understood as an indication that there is a gap between prediction and conviction. Another barometer is the widespread acceptance of uncertainty in the fields of business and management. Indeed various figures have built their reputations on methods for dealing with uncertainty; such as Lawrence Wilkinson's method of 'scenario building' in which a number of different qualitative scenarios are predicted and solutions are selected based on the number of such scenarios they address.⁷⁷ Thus, in order to harness this movement, the principles of the network which structure this movement (such as choice, multiplicity, redundancy, and intersection) ought to be addressed within the library.

The library is a curious program that is representative of urban life. In it you can choose your own balance between anonymity and identity (the nature of the city itself) and this is mediated by environment and artifact. The spectrum of mediation goes something like this: on one end, you interact with no one directly, but then converse with a text's author and perhaps even its past readers in its margins while at the other extreme; you discuss a work or text directly with other patrons. You can also indirectly interact as an author or creator. So, perhaps this spectrum is actually more like an hourglass shape on its side, in which use and production are two sets of poles and direct and indirect are the other. However, this dynamic is structured, it is clear that the library is about the give and take of knowledge in much the same way the interactions on the subway are about the give and take of visual connection and its consequences and that by coupling the two, new possibilities exist for understanding both the production and consumption of knowledge.

Democratized production

The world today is turning more to user-driven making – though it seems a contradiction, there need not be a defining line between maker and user. The evidence of this is all around us. User-based innovation occurs across a wide spectrum of activities, from things like alternative, performance-based sport such as windsurfing in which customized enhancements and accessories

⁷⁷ For a more complete explanation of this methodology, visit Wired magazine's coverage of Wilkinson, found here: <http://www.wired.com/wired/scenarios/build.html>

are invented by and shared among participants⁷⁸ to intellectual products like software in which a program's source code will be published along with the program itself so that a larger pool of creators can be leverage and the products can be improved upon by the people using them.

This not new however, but its reception is. Do-it-yourself construction has been around in the US since the early twentieth century and had a significant boom shortly after WWI due in part to increases in homeownership and financial conditions that made those home and repairs to them possible, but also due to the social construction of hobbies as productive leisure. However, due to technological developments and cultural changes, what might have been a hobby (or a purely academic pursuit?) is now finding enough legitimacy and profitability to be a full-time pursuit – again blurring the line which once clearly defined who was doing what, and why.

Increasingly, new technologies are providing outlets to allow additional points of entry to creating content. Blogging is a prime example. A blog, short for weblog, is website of journal entries posted in reverse chronological order either by one person or collectively contributed to and often organized around some theme or activity⁷⁹ what started less than ten years ago as a combination of online journal and instant publishing space, has now grown into a worldwide phenomenon that has gained much attention and legitimacy. The idea that anyone connected to the internet can share his/her experiences and observations has affected the way people think and certainly how news and events are reported. As recently as 2001 a number of political blogs began to gain notoriety, for example www.andewsullivan.com. This came to the fore in an incident in 2002 in which bloggers brought media attention to Senator Trent Lott's comment at an event honoring Senator Strom Thurmond that the US would be better off if he were elected president in 1948, when he ran on a pro-segregation platform. This led to Lott's resigning his post as Senate Majority Leader. This increasing legitimacy (or at least attention) to blogging today is even more prevalent. During the Senate confirmation hearings for supreme court nominee Alito, the New York Times' website feature links to various blogs and stories by times reporters covering what bloggers were saying about the hearings with links to blogs such as media matters.

78 von Hippel, Eric. Democratizing Innovation. (MIT Press, Cambridge: 2005) 2.

79 <http://en.wikipedia.org/wiki/Blog>

Blogging is not the only such example. In numerous other areas, the creative production of content is being democratized. During a recent Transit Strike in New York City, the New York Times' website featured a function called "Share Your Commuting Stories"⁸⁰ in which readers could post anecdotes about how they coped with the strike and got to work. Rather than have a reporter on the street collecting and authoring this content, commuters generated it themselves within the framework of the web – which then enabled the *Times* to create an interactive map of such stories including points of origin and destination for each.

Another democratizing phenomenon related to blogging is podcasting, a term coined in 2004 as a combination of Apple's iPod and broadcasting. A podcast is a "digital recording of a radio broadcast or similar programme, made available on the Internet for downloading to a personal audio player."⁸¹ The activity was originally conceived as an audio extension of the text- and image-based space of the blog in early 2001 so that people could have their own 'radio show' distributed over the internet.⁸² Podcasting was enabled by a new technology, the RSS (rich site summary / real simple syndication) file format. RSS made it possible for people to subscribe to a website with an RSS feed and then automatically check for new or modified content available.⁸³ Because the popularity of podcasting has skyrocketed, it has moved from its early days as the contemporary equivalent of amateur 'ham' radio culture to a mainstream phenomenon utilized by large organizations both within and outside of the media; for example, not only do the New York Times and Business Week offer podcasts, but religious services are now available (often informally referred to as

80 See http://www.nytimes.com/packages/html/nyregion/20051220_STRIKE_MAP_READERS.html?8dpc accessed 12/20/2005. There the reader input was organized by zip code so that clicking on a specific region would get a story like: "I live in Chelsea at 9th and 21st and work on the Upper East Side. On a borrowed bicycle, I soared up the bike path of the West Side, past the Queen Mary 2, past hundred of other bicyclist going downtown and across on 72nd street."

81 Oxford English Dictionary – Online Edition

82 <http://en.wikipedia.org/wiki/Podcasting>. Note that apple rivals have sought alternative explanations for the term, such as "Personal On-Demand broadcasting and that during its initial stages Microsoft tellingly referred to the phenomenon as 'blogcasting'

83 http://en.wikipedia.org/wiki/RSS_%28file_format%29

'Godcasting') as are things like foreign language lessons in high schools.

No matter what the purpose, there are two significant democratizing aspects to podcasting: first, though it may also come from large media conglomerates now, the content can be created by users themselves, as it was when it began. Second, the content is selected, accessed, and listened to according to the needs of the user. That is, instead of a radio station dictating what programs will be broadcast and when, podcasting allows users to subscribe to a number of different sources and listen to what they want, when they want.

Another project that demonstrates the democratization of content production is storycorps. Storycorps is a "national project to instruct and inspire people to record each others' stories in sound ... to help you interview your grandmother, your uncle, the lady who's worked at the luncheonette down the block for as long as you can remember—anyone whose story you want to hear and preserve."⁸⁴ It was started by David Isay, a radio producer who wanted to "take oral history and put it in the hands of regular people."⁸⁵ Modeled on the Works Progress Administration (WPA) of 1930s which recorded oral-history interviews of everyday americans accross the country, this project uses recording booths in New York City in Grand Central Station or lower Manhattan or mobile booths around the country, people are encouraged to share their stories, either individually or through an interview process with a friend or relative. These oral histories are then archived in the American Folklife Center at the Library of Congress and are made available to the public in .mp3 format on the project's website: <http://www.storycorps.net>. The scope of the project goes beyond the mere mechanism of recording oral histories though because it creates an opporuntity for people to substantively interact in the process of the session and for others to interact with them indirectly afterward on the web by listening. Toward this end, it's noted on the project's website that,

"...StoryCorps celebrates our shared humanity and collective identity. It captures and defines the stories that bond us. We've found that the process of interviewing a friend, neighbor, or family member can have a profound impact on both the interviewer and interviewee. We've seen people change, friendships grow, families walk away feeling closer,

84 <http://www.storycorps.net/about/> accessed 10 January 2006

85 <http://smithsonianmag.com/smithsonian/issues04/jun04/poi.html>

understanding each other better. Listening, after all, is an act of love.”

Another example is of democratized making, though it has perhaps less lofty goal than a project like storycorps, has to do with mobile phone ring tones. As phones have become more complex, their capacities for having myriad different sounds play to announce a call or an SMS text message have greatly increased. This capacity, coupled with broadband internet access, enables people to customize their products, downloading favorite sounds, movie dialogue, and so on. Enabling people to make these creative choices was the first step in the process. This of course opens the door for people to make they're own audio clips and load them onto phones, and the latest step in this development is enable by new applications such as Harmony Line's 'Hyperscore' developed at MIT's Media Lab which allows people, even those with no prior music training, to compose short pieces using intuitive visual tools:

“Hyperscore is a graphical composition environment that interprets the gestures of the strokes and lines the user draws in an intuitive way. The user can pen musical ideas, store them for later use, and create new pieces—all in one expansive canvas. The strokes in the drawing are mapped to structural elements in the music, allowing the user to interweave and shape musical voices and define harmonic progressions visually”⁸⁶

Once the pieces are created, they can be shared online or kept for one's own phone. So, rather than Verizon or AT&T or Motorola dictating what your phone will sound like, they open up the mechanism so that people can create the sound for themselves.

Supporting the democratization of content production is vital in the battle to balance consumption and production. Increasingly, it seems our environment is defined by use and our identities shaped more and more through consumption. At least ten years ago, William McDonough began articulating this, by noting that we'd all become consumers with lifestyles rather than people with lives.⁸⁷ More and more, people's identities seemed to be

⁸⁶ <http://www.media.mit.edu/hyperins/projects/hyperscore.html>

⁸⁷ This paraphrased from an introductory lecture by mcdonough during his class at the University of Virginia, "Environmental Choices." It's origins are a 'sermon' given by McDonough and Paul Hawken at the Cathedral of St. John the Divine in New York on

shaped through consumption rather than production. Many people, particularly advertisers and retailers, would have us believe that we are what we buy. Darrel Rhea, author (with Steve Diller and Nathan Shedroff) of *Making Meaning: How Successful Businesses Deliver Meaningful Customer Experiences*, described this phenomenon recently in an interview. Rhea, the CEO of the Cheskin, a Strategic Consulting and Market Research group, was commenting on how businesses design experiences for their customers so that consumer can make 'authentic, meaningful connections' with products and mentioned how successful Starbucks has been in this regard because they offer "not only coffee but community – the chance to see and be seen," and within such environments people are able to choose products that 'say who you really are.'⁸⁸ Though the former is commendable, the latter observation needs to be challenged.

Open, distributed systems that blur the lines between creators and users offer an alternative to the idea that we are what we buy. The examples of blogging, podcasting, open source software, and do-it-yourself construction, to name a few, show instead that we are what we make. Its inevitable that people put a part of themselves into everything they make and so the moment one makes something, whether a written work, a recorded story, a piece of software, or even a ringtone, his or her identity is made manifest. And, the moment this is shared, it creates the possibility for interaction, and may in turn beget more making – perhaps even in collaboration in which a collective can make something more than itself. Thus, creating outlets in which the means for people to engage in creative activity are open and distributed helps them force identities out of making rather than sheer use and helps maintain the delicate balance between production and consumption that cities, as intensified centers of activity, specialization, and exchange, have historically been witness to.

One specific example of this distributed creative making has to do with innovation of products themselves. Eric von Hippel has written extensively on

February 7, 1993 and published as "A Centennial Sermon: Design, Ecology, Ethics and the Making of Things" at <http://www.mcdonough.com/Sermon.pdf>

88 Darrel Rhea (Cheskin) Interview with by Jessie Scanlon entitled "Making Meaning: How Today's Companies can Connect With Consumers." in the Businessweek Innovation of the Week Podcast. Located here: http://www.businessweek.com/mediacenter/podcasts/innovation/innovation_01_10_06.htm (accessed 11 January 2006)

the subject of 'Democratizing Innovation,' cases of user-centered innovation and production that is enabled by open, distributed system. In various case studies encompassing a broad spectrum of both informational and physical products including medical equipment, software, and sporting goods, von Hippel demonstrates an increasing trend toward user-centered innovation that is being furthered by improvements in design, communication and fabrication technologies and a growing information commons⁸⁹ and is usually done by lead users.⁹⁰ This process often also enjoys the benefits of creating a positive feedback loop since innovations are often freely revealed based on a combination of public/social and private/personal reward, and thus allows others to improve and build upon these innovations in turn.⁹¹ This is all sharply contrasted with a 'traditional' innovation model "... in which products and services are develop by manufacturers in a closed way, the manufacturers using patents, copyrights, and other protections to prevent imitators from free riding on their innovation investments. In this traditional model, a user's only role is to have needs, which manufacturers then identify and fill by designing and producing new products."⁹² Thus, democratized innovation is another example in which content production, in this case in the form of informational and physical products, produces appreciable public and private benefit as a result of its open, distributed character, and then provides additional benefit through its being shared with others - it is another means by which people can identify more with what they create than what they consume.

The vestigial spaces of New York's subway demand a particular kind of library that exploits the distributed character, the prophetic underground-ness, and the existing culture of reading of the subway. I offer what is termed the 'open library' as a possible answer to this call. Such a library is positioned not only to have a networked character in both physical and virtual senses, but also to posit that creating a place for the production of knowledge as well as its use is the fundamental question the library must address. The rise of consumerism and the concomitant fall of production are pervasive within our culture. While these might

89 von Hippel, Eric. *Democratizing Innovation*. (MIT Press, Cambridge: 2005) 12 – 13.

90 Ibid. 31.

91 Ibid. 10-11.

92 Ibid. 1.

be all too quickly associated to material things, the tendency toward passive use over active construction is equally insidious when it comes to knowledge and information.

With the democratization of knowledge production as a complement to its consumption come a number of questions, among them, does this undo the specialization and hybridization which are essential attributes of urban society? In other words, how does having many people doing the same thing create additional difference? The answer (or at least part of one) is that in terms of interpretive and creative acts, each person is different. Not only do two people not read a book the same way, but they won't write a book, any book, the same way – so long as it contains part of themselves. This is inevitable since we are what we make and vice versa. As such, the intertwining of maker and user ought to further the hybridity of both library and city rather than reverse it.

In order to blur this line between use and production, the open library distributes and democratizes knowledge in concert with a mass transit system that democratizes physical access. A library in the 21st century should not be a place only to get knowledge - it simply cannot be one in light of the ubiquity of consumerism and flippant appropriation within our cut-and-paste society. Rather, a open library can tip the scales so that the consumption and production of knowledge are a bit more balanced, if not intertwined, since they're certainly interdependent and have been for a long time. Such a library can make it clear that you are not what you buy. You are what you read, write, draw, and so forth.

People are by nature productive beings. According to Marx, humans are fundamentally creative, productive beings wishing to convert natural objects to cultural product, in its many forms. Accordingly, human potential is fulfilled through cultural production and lost or unfulfilled when human beings are separated from their production.⁹³ By creating opportunities for the democratization of knowledge production to complement acquisition, the open library reduces this estrangement. The resulting connections need not serve as homogenizing agents. Actually, our use-driven, consumer culture has a homogenizing effect and providing people with an opportunity to create knowledge and then share knowledge can help to achieve the hybridity to which each community and city ought to aspire.

93 Marx, Karl. Economic and Philosophic Manuscripts of 1844. (International, New York: 1964).

For the open library, thinking for a moment only in physical terms is quite telling for understanding the democratization aspect that I'm advocating. That is, if we think of this library as a mechanism for collecting, classifying, and sharing objects, then it is clear that now there typically exist a great many people whom are making things worthy of entry into such a (public) container but are instead barred from entry based on the nature of the mechanism. Shifting perspective to the world of books, it is not too difficult to understand the nature the ensuing problem. For example, the formal publishing industry has enormous barriers. According to a friend doing editorial work at major publishing house, in her office, any unsolicited manuscript does not even get acknowledged with a rejection postcard, let alone skimmed or otherwise evaluated. Representation from a literary agent with long-standing ties to the editor is the prerequisite for the honor of receiving a rejection postcard, and this is quite telling as to the barriers to getting into physical print. This begs the question, can a library play a role as a publishing agent to lower these barriers as they see fit? The system for publishing theses here at MIT seems to suggest that perhaps one can.

Not all barriers are necessarily a bad thing though as they can help assure quality and assure that cultural production is compensated/rewarded in some way. On the other hand, the web offers instant publishing of everything from political rantings of bloggers (which arose in the wake of such barriers) to grandma's chili recipe. This leaves a tremendous void to be filled both in terms of the spectrum of knowledge and information to be distributed. An open library could potentially fill some of this void by implementing systems for distributing information in physical and digital formats with the former to be equally accessible because myriad readers are moving instead of the data itself.

The example of Nick Montfort and Scott Rettberg's *Implementation* project⁹⁴ is an informative example in alternative publishing and distribution methods that speaks to the nature of the library being proposed. *Implementation* is a novel written by Montfort and Rettberg that was distributed sequentially (chapter by chapter) first online and then physically throughout the world in the form of urban stickers which could be printed from the project website and affixed to any location in urban or other environments. This is representative of a kind of open process in which conventional modes of production were upended as reader became publisher (and perhaps, in light of their agency

94 <http://nickm.com/implementation/>

in choosing sites and application technique, editor as well). In doing so, the publishing mechanism is called into question while at the same time asserting the importance of site and user/reader active engagement in the work.

Open Source software also provides powerful precedent for distributive creative processes. Open Source software⁹⁵ is software that is created in a distributed process wherein a programmer or group of programmers will begin a programming project and take it to lessened level of completion, only then to freely distribute the program and its source code to a multitude of potential users. Some of the most well known examples of this process are the Linux operating system and the Mozilla Firefox web-browser. By distributing the source code of the program, users are then empowered to be co-creators and impact not only the functioning of the program but often its direction and purpose. They identify and fix errors, incorporate new functions, and maintain it overtime. This yields a product that is stronger as result of the distributed creative process as well as one that can be easily added onto and improved over time.

A trend that is also illustrative of the burgeoning need for a library which intertwines production and use is the tendency toward increasing user (read: customer) involvement in the creation of products whose design is prominent, a trend that is becoming widely available from mass-customization technologies and the advent of computing tools to keep track of variations and combinations. In order to involve, and thereby differentiate yourself, it is not uncommon to be able to go online and 'design' one's own version of a sneaker, car, or even home⁹⁶ by partaking in a combinatorial design system in which versioning is achieved by combining pre-set options.

Though this trend toward user involvement does provide useful precedent for the democratization of design, the concomitant mass-customization must also be fit into an overall framework and be tempered by a larger cultural understanding. Toward this end, Swiss engineer Jorg Schlaich has noted that traditional fabrication logics provided constraints that could inspire rather than restrict design. Hence often in pursuit of efficiency, designers would search for solutions that could be repeated in response their fabrication

95 See the Open Source Initiative's definition here: http://www.opensource.org/docs/definition_plain.php

96 See for example, NIKE ID: <http://nikeid.nike.com/nikeid/index.jhtml> and Ford Vehicles at <http://www.fordvehicles.com/> nd KB Home: <http://www.kbhome.com/>

methods or one element might be used to construct the next. However, with the rise of CNC (computer numerically controlled) technology, every component can have a different shape or configuration because, as Schlaich noted, “the CNC machine doesn’t care how many variations it has to make.” He then went on to add that in the absence of the physical constraints of fabrication, designers must add their own constraints mentally in order to inspire and drive the design.⁹⁷

Thus, an open library might leverage the context of the subway to focus on the dialectic of knowledge use and production. It might also take its cues from user-based, distributed creative endeavors such as Open Source software, customer-driven design, and project such as *Implementation*. But, does such an institution need physical space and if so, how might it be designed? The library is a space in which one can easily obtain a book, a periodical, map, or pamphlet and interact solely with the object, discovering oneself within others – more specifically their stories, wishes, thoughts, and settings as articulated in words and pictures. Rather than use these artifacts (which are crucially embedded with knowledge and meaning) to interact with other times and places, they can also be used to initiate interactions with others at this time and place - to discuss and to understand. While these interactions can happen digitally, most still find value in their happening physically, and this presents people with a choice between anonymity and community. Crucially, if spaces contain values, then they can also be used to foster and otherwise influence these interactions.

Interactions may also be between a library patron and the collection which allows for browsing, a physical act still lacking a digital equivalent. People interface differently with physical objects in space than they do with electronic information in digital space. If browsing a library is akin to wandering through a city, then the purely electronic library cannot adequately provide such an experience. There is a distinct difference between browsing and searching, and electronic media are geared for the latter since the utility or value of information is in proportion to its organization. This is to say, rather than a targeted search for a specific item or subject-matter, analogous to choosing a destination and mapping out the route through the city to it, a physical space allows browsing and therefore the possibility of unexpected discovery – the kind of discovery that helps fuel intellectual curiosity.

⁹⁷ Paraphrased from lecture. Jorg Schlaich. Harvard Graduate School of Design. 24 April 2004

The notion of the stranger is a particular lens through which to look at the city: the city is an aggregation of strangers, leaving life as the struggle to understand the self with respect to the other and balance between assimilation and differentiation. The subway is a particular slice of the city that lays bear the role of strangers in the urban life in this its most frenetic, diverse, and intense setting. The library is a particular program that mediates the interactions of strangers with respect to knowledge through the use of artifacts and information. It is a place to both acquire and produce knowledge while negotiating between an array of interactions, ranging from a silent relationship with a text to a lively and discursive discussion of a creative work with fellow patrons.

The vestigial spaces within New York City's subway have great potential but their reclamation in architecture also mandates a solution that speaks to the relation of subway to city, to the notion of stranger as the embodiment of urban conditions, and to the ever-increasing culture of consumption that leaves production in its wake. As underground interventions which create spaces of interactions among the city's strangers, this architecture will have to address the relationship between people and environment. With the insertion of the cultural project of the open library, such interventions could act as catalytic changes that contribute the physical and intellectual renovation of the subway and the city. Ralph Waldo Emerson wrote that you should "[b]e a little careful about your library. Do you foresee what you will do with it? Very little to be sure. But the real question is, what it will do with you? You will come here and get books that will open your eyes, and your ears, and your curiosity, and turn you inside out or outside in."⁹⁸ If the open library can live up to this, then it will be worthy of insertion into the subway. It will then serve as a vehicle for the urban citizenry to make its mark on the city, for each person to find himself within the ideas of others and then reciprocate.

98 Emerson, Ralph Waldo. *Personal Journals*. ed. Joel Porte (1982).



Design Introduction

Cities are often shaped by their infrastructures, systems within a city that allow its citizenry to thrive and the city as a whole to prosper. These systems stand as physical evidence of societal values. Public transit and library systems are among the most critical. The subway democratizes mobility: anyone can affordably get anywhere. The public library democratizes knowledge: everyone is granted access to the knowledge and culture stored in these spaces. By combining these two institutions dedicated to providing access, the Subway Libraries create an opportunity for each to enhance the other, and out of this resonance arises the possibility to reorient and renovate these infrastructures and the city.



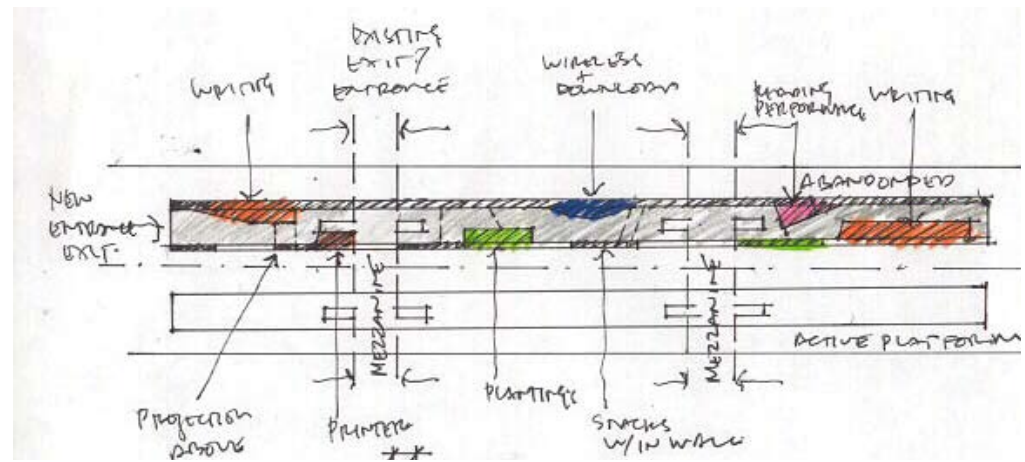
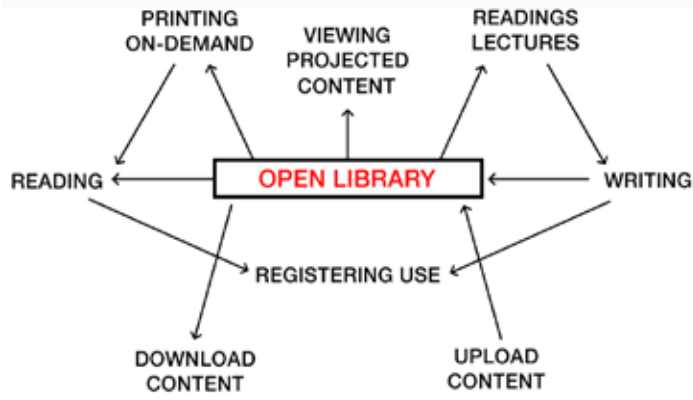
Increasingly, libraries are seeking to enter the spaces of users, often by means of remote internet access or by adjusting their offerings on site to respond to users needs traditionally unmet in the library, such as louder, collaborative space. By bringing the library physically to the user in the subway, and by adopting a paradigm of distribution rather than consolidation, this movement toward the user can be heightened. Whether through user-customization on anything from a sneaker to a home or through actual content creation in activities like blogging, 'making' is becoming more and more democratized and user-based. So, opening the library and distributing it by means of the subway and its users has the potential to further both the utility and relevance of both institutions. Given the rise of a global cut-and-paste, consumer culture that extends from physical goods to intellectual property, supporting the democratization of knowledge production by blurring the lines between creators and users is of particular value. The subway libraries are posited as a vehicle for both supporting and effecting such change.



The design of the subway libraries is as much about conceiving of the open library as an institution and understanding it as a system or set of relationships as it is about the creation of a physical manifestation of the institution in space. The design will be explained in four sections: conceptual underpinnings, designing the institution, implementing that design by means of a prototype, and last, the instantiation and subsequent adaptation of this ideal prototype to the actualities of three sites within New York City: Columbus Circle, Canal Street, and Brooklyn Bridge. The three intertwined concepts of access, mobility, and interaction provide the impetus for the design of an institution

defined by openness and nodes of program and dedicated to an expanded field of production and use. The library is made physically manifest such that its spatial organization is a diagram of the institution itself – space that is then sited in different locations in the city and then adjusted and adapted in response to the idiosyncrasies of place.

Just as the prototype responds at the scale of the site, so too do the delimiting walls of the Subway Libraries. Consisting of the pairing of a glass wall facing the subway and a slatted, wood wall facing the library, these elements function as reinvented stacks that vary and respond to diverse programs such that the pair are at times collapsed to the depth of a book while at others wide enough apart and configured to accommodate a garden or an entire room for writers-in-residence, for example. The system then makes manifest the effect of program on architecture, producing a tectonic language and varied environment that evidences a material and experiential escape from the subway and at the same time creates pockets for movement and pause, light and shadow, and reflection and view. Lastly, this environment is then revealed through use as its instantiation is depicted by following five users through city, subway, and library as they, in effect, make the library for themselves as they use it in their own ways.



Design



public transit
democratized mobility



public library
democratized knowledge



'Open Library'

subway libraries
knowledge production
openness
user agency

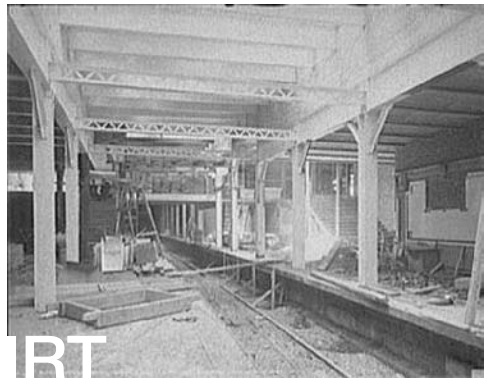
Design Concepts

This project describes the reclamation of abandoned platform spaces within working stations of the New York City subway as sites for a new kind of library. This section describes the design itself as but one answer to the questions that were framed in the previous section that provided the context within which this design can be read. This description has four principal sections: the first will discuss the three conceptual pairings that drive the project: democratization and access; movement and mobility; and interaction and circulation. Secondly, I'll describe the design of the Open Library as an institution defined by openness, user agency, and nodes of program. Third, I'll demonstrate how that institution, like the subway itself, was implemented or made manifest through the design of ideal prototype based on programmatic, experiential, and architectonic considerations. Lastly, the instantiation of that ideal prototype and its subsequent adaptation to the realities of the sites will be revealed through use – through the eyes of five users as the move through the city, the subway, and the library.

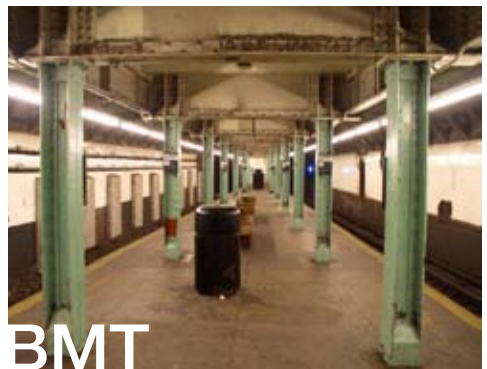
democratization and access

Three concepts drive this project. The first is democratization and access. The public library is about the democratization of knowledge; it's about giving people access so that anyone can access any thing for free. The public transit system is about democratizing mobility so that anyone can affordably get any place within the city. Coupling these provides an opportunity to effect the democratization of knowledge production as well as consumption in order to extend the historical evolution of the library and its tradition of increasing access and openness. A new institution, the Open Library resulting from this coupling and designed for these specific sites, makes manifest this democratization by responding to numerous cultural trends which entail an increase in user agency and a blurring of the line between creators and users that is often brought on by technological development; such as open source software, blogging, and podcasting to name a few.

By conjoining subway and library, this project deals with access in both the physical and intellectual sense. It provides people with not only the ability to use certain media and opens knowledge to them, it also challenges aspects of our current intellectual property regime as well as the notion of an imposed catalog or other informational hierarchies. In doing so, it is able to leverage a



RT



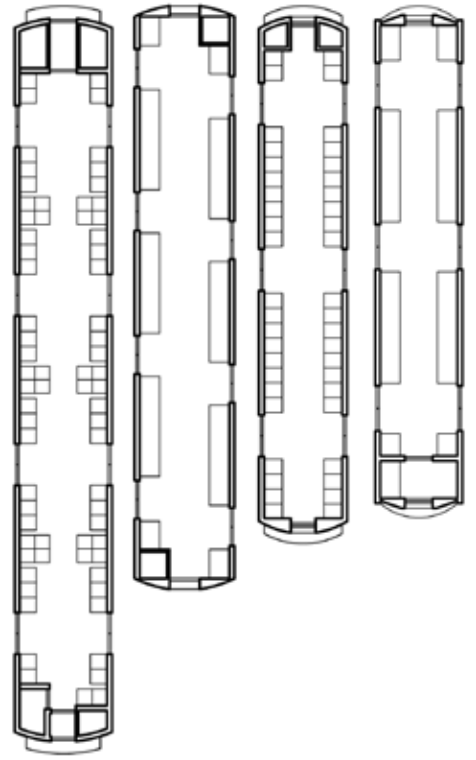
BMT



IND



reading in transit



R68 R38 R62 R142

movement and mobility

greater pool of creative individuals and refute the notion that our society has to define itself as a cut-and-paste culture of consumption. Rather, this project seeks to reinforce a lineage of democratized making, demonstrated in the longstanding do-it-yourself ethic dating back at least a century and other more current trends, to posit that we might indeed not be what we buy but rather be what we make – whether we've made a book or a piece of software.

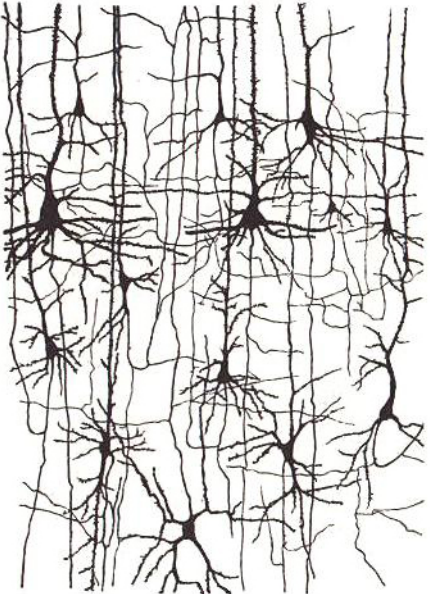
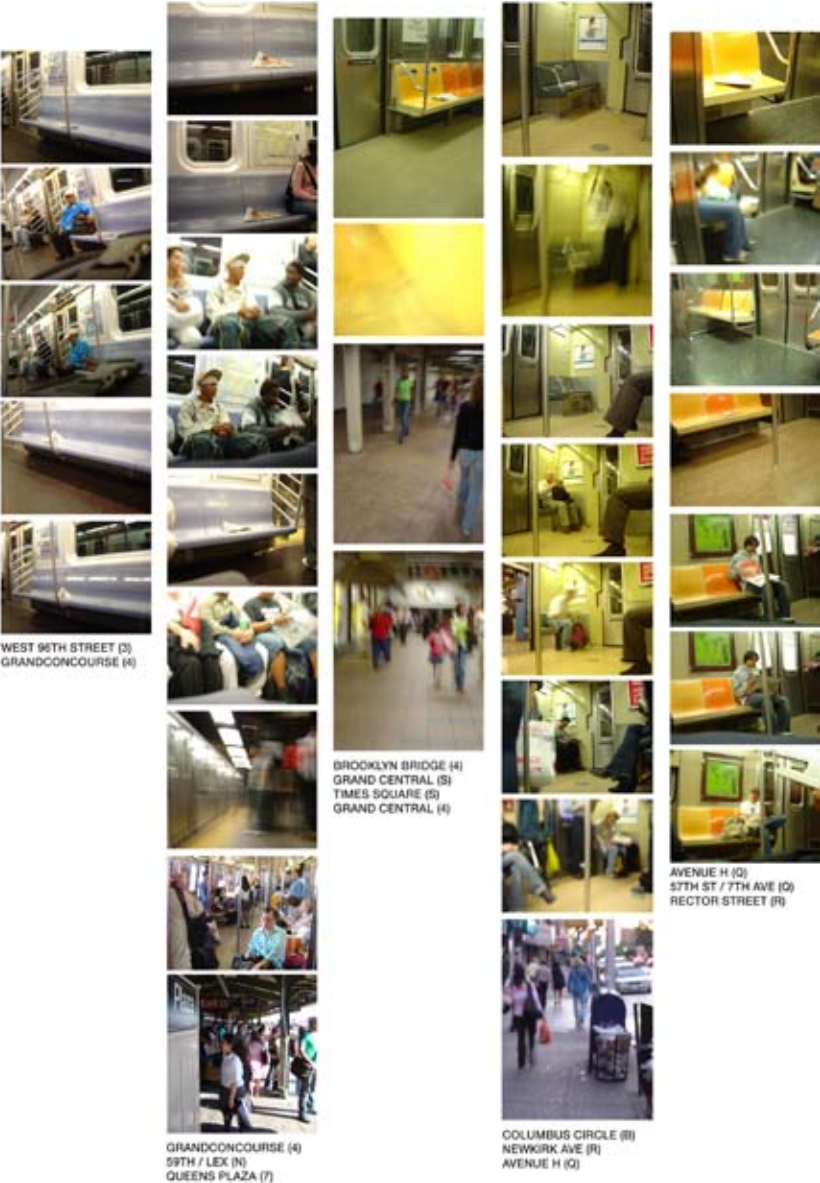
The open, distributed paradigm that is embedded within these democratizing institutions necessitates movement and mobility, and because of their coupling, mobility can be understood not only in the physical sense but can also be understood social and culturally as well. Given the degree to which reading in transit cuts across geographic, generational, racial, and class boundaries, this double meaning is of particular importance. These ideas are manifest by siting these institutions within the city systematically in choosing the stations to recall the tripartite history of the subway's construction and hearken back to this time when the flow of modernity was unmistakable and New York became about movement in both the physical and social senses.

The New York subway was built by three different organizations, with three different standards and was ultimately united in 1953. The IRT or Interborough Rapid transit Corporation built the first line, opening in 1904 in Manhattan from City Hall North to Harlem. Shortly thereafter, a rival company, the BRT, later renamed BMT or Brooklyn Metropolitan Transit Corporation began building principally in Brooklyn and extending into Manhattan. Unlike these two lines which were built privately, given to the city, and then leased back for profit on operating costs, the third line, the IND or Independent Line, built by the city starting in the 1920 until all three were unified in 1953¹ under the umbrella of NYC transit.

To make its historic reference, this project looks at three sites (one on each of these lines) of the ten stations within New York City that have abandoned platform spaces within operating stations. Because of changes within the train system and routing, changes in population, and developments in car technologies, certain spaces have become vestigial within the system but are nonetheless ripe with potential. Brooklyn Bridge Station on the old IRT has two abandoned platform spaces at the perimeter that began as local platforms and

¹ <http://mta.info/nyct/facts/ffhist.htm>

FOLLOWINGS: 3 OCTOBER 2005



once the trains were lengthened from 5 to 10 cars in about 1908, they decided to wall off those side platforms,² in effect making them time capsules (below New York City Public School No 1 which has since been razed) and lengthen only the middle platforms since those were the ones in frequent use. Canal Street Station is located at the terminus for express service to North Brooklyn that was discontinued two years ago – they consequently rerouted the local service to the opposite site of the North platform, leaving the South Platform vacant but again, full of potential.³ Columbus Circle’s abandoned platform is the center of 3 island platforms and was designed to allow the express train to empty out of both sides of the train, onto two platforms. After 1981, this was no longer an issue, because it became so difficult to open the car doors simultaneously that this platform was no longer used⁴ and has been laid fallow since then despite that fact that it is completely accessible – visually and physically.

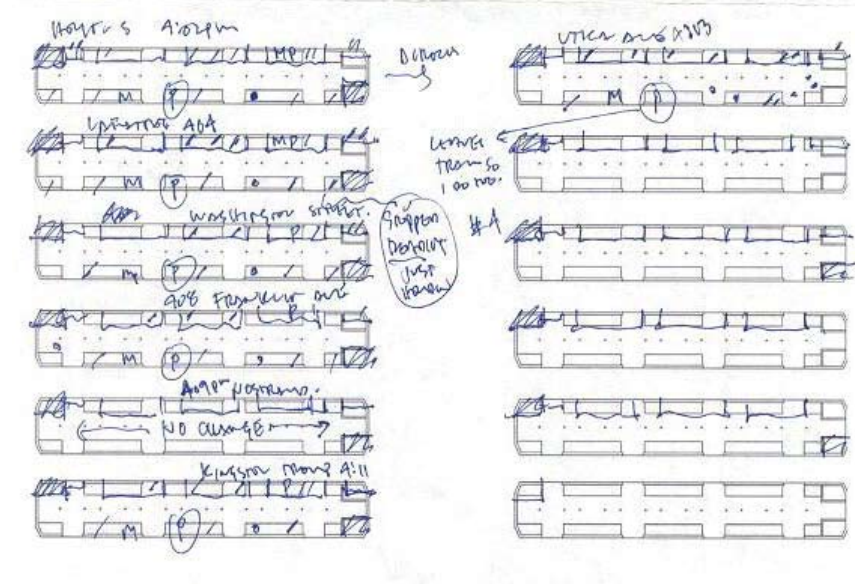
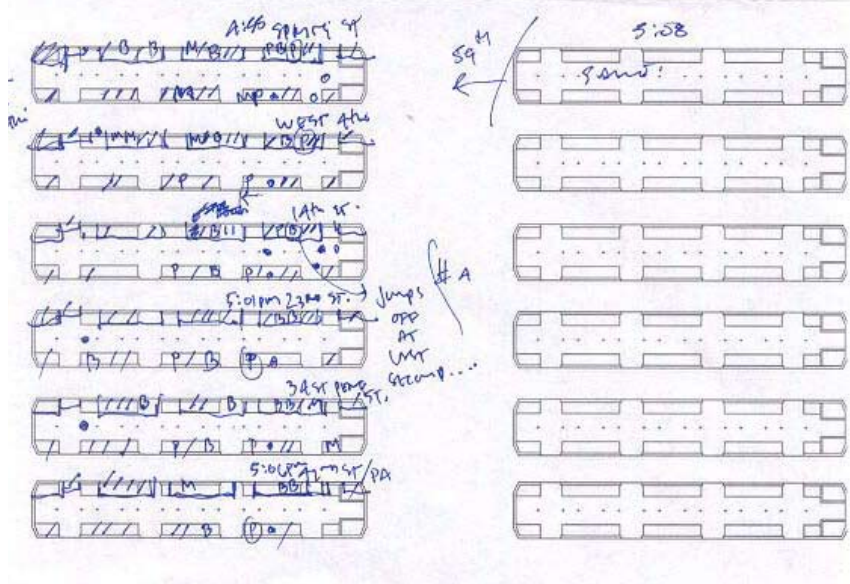
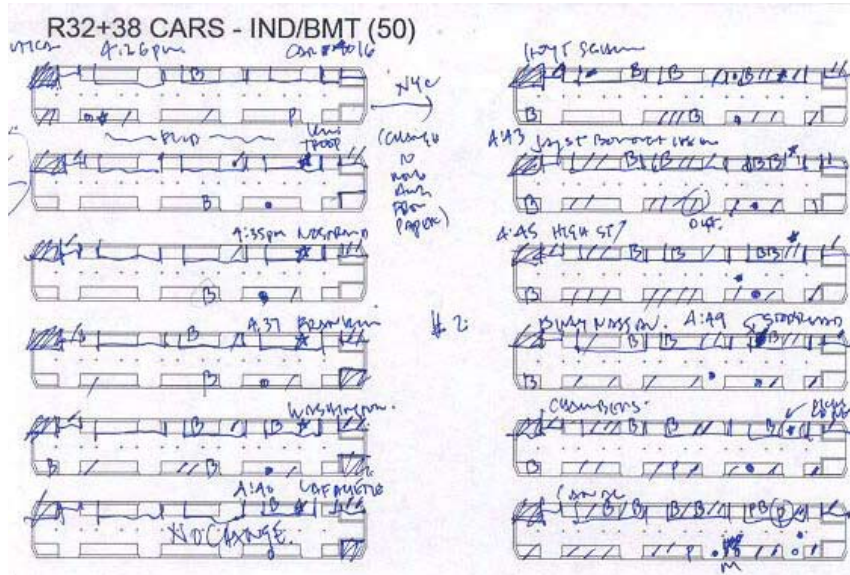
interaction and circulation

The third aspect of the project deals with interaction and circulation. I began the design of the library by looking at the ways in which people and objects circulate around the city which is of particular interest given the coupling of two ‘circulatory’ infrastructures in the city: one public transit, the other public libraries. This entailed a number of exercises following different printed matter around the city and understanding how that movement occurs. I also executed a series of all-day reading studies in the subway (beginning with reconstruction of seating charts and car geometries) to see who’s reading what over time, and understand patterns: how media begins to clump together, how people begin to gravitate toward the edge (and even more so when reading), how reading does not necessarily mean you’re in the train any longer since for instance, interestingly, people sometimes will read for only one stop. By graphically analyzing different media (or lack of it), one can understand that ‘magazine people’ often sit with magazine people and ‘paper people’ often sit with paper people. Though not a scientific survey, this represents a point of entry into the city and into the subway and into understanding how the culture of reading on the subway which is so pervasive, might be leveraged in an institution.

2 <http://columbia.edu/~brennan/abandoned/brooklynbr.html>

3 <http://columbia.edu/~brennan/abandoned/canal.html>

4 <http://columbia.edu/~brennan/abandoned/59st.html>



reading studies

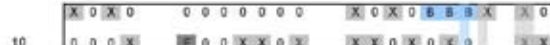
with 3000000 to brooklyn bridge
 "B" car - seats 40

- 0 empty seat
- x not reading
- p newspaper
- m magazine
- b book
- w writing
- r map
- e eilat
- not a seat

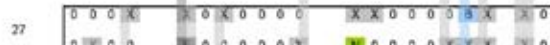
READERSHIP
 MEDIA
 TIME
 POSITION
 IN CAR
 IN CITY

Time Station

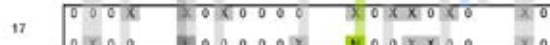
7:56 PM E 96th STREET



8:00 PM E 86th STREET



8:03 PM E 59th STREET



8:06 PM E 42ND STREET



8:08 PM E 33RD STREET



8:09 PM E 26th STREET



8:11 PM E 23RD STREET



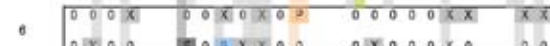
8:13 PM E 14TH STREET



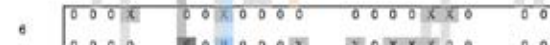
8:14 PM ASTOR PLACE



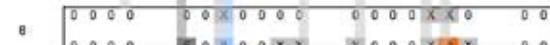
8:15 PM BLEEKER STREET



8:16 PM SPRING STREET



8:18 PM CANAL STREET



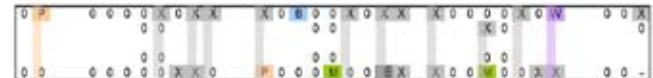
8:19 PM ARRIVE BROOKLYN BRIDGE

57th St to Canal

- 0 empty seat
- x not reading
- p newspaper
- m magazine
- b book
- w writing
- r map
- e eilat
- not a seat

Time Station

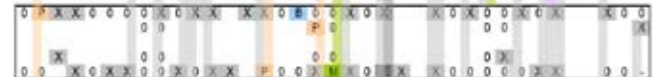
5:24 PM 57th ST.



5:26 PM 40th ST.



5:28 PM 42nd ST.



5:30 PM 34th ST.



5:32 PM 26th ST.



5:33 PM 23th ST.



5:34 PM 14th ST.



5:36 PM 8th ST.



5:38 PM Prince ST.



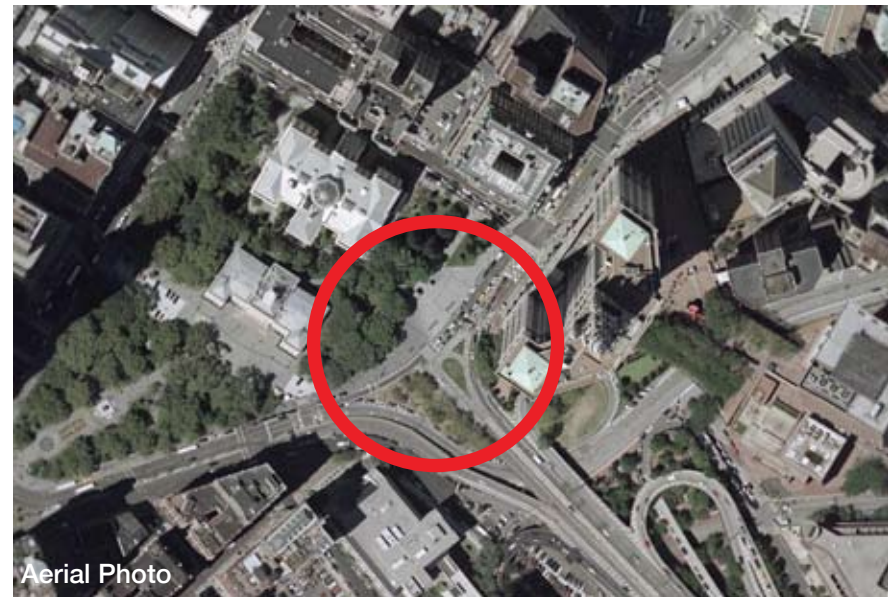
5:40 PM Canal ST.

reading studies

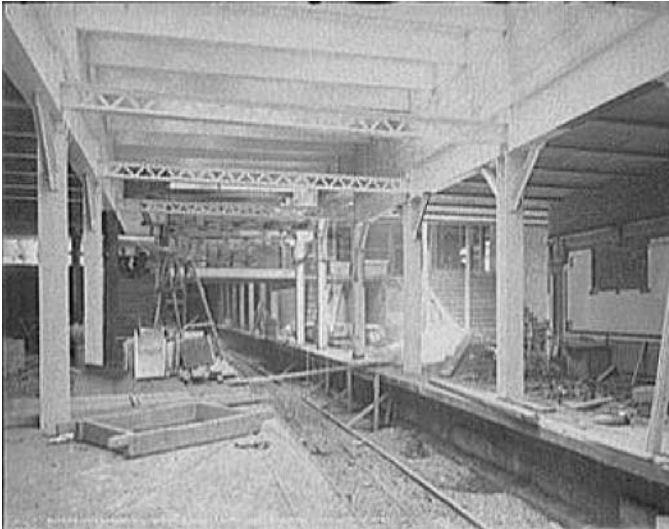
Site: Brooklyn Bridge



Abandoned Local Side Platforms



Aerial Photo



View of abandoned platform (prior to sealing off)



plaza
above



View from mezzanine to abandoned platform
(after sealing off with wall in foreground)



456 platform
below

Site: Canal Street



Abandoned Northbound Island Platform



Aerial Photo



View looking down abandoned platform



View from abandoned to active platform



center
street
above



jmz platform
below

Site: Columbus Circle



Aerial Photo



View from mezzanine/entry level to 'chained' stairs



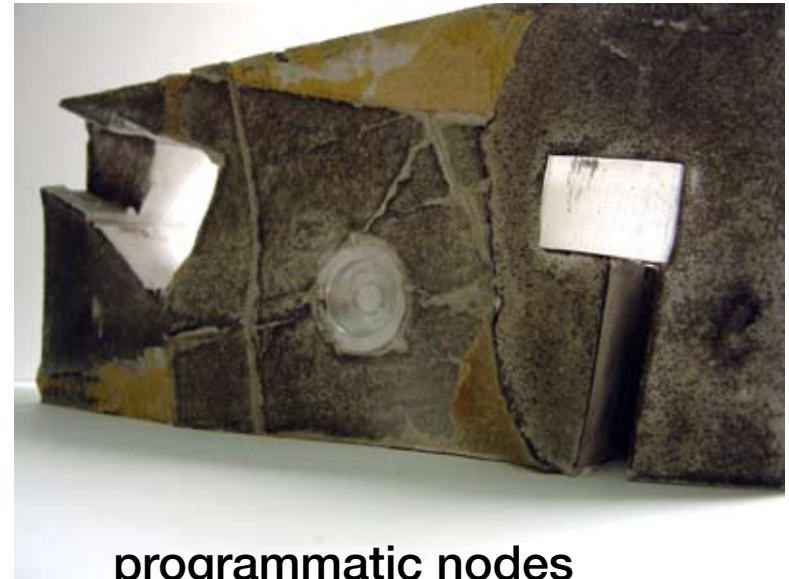
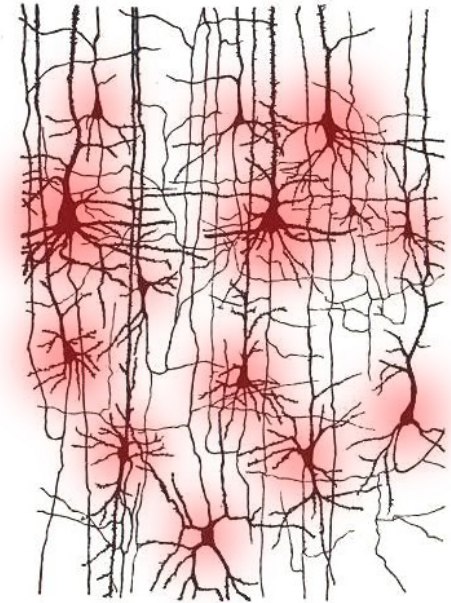
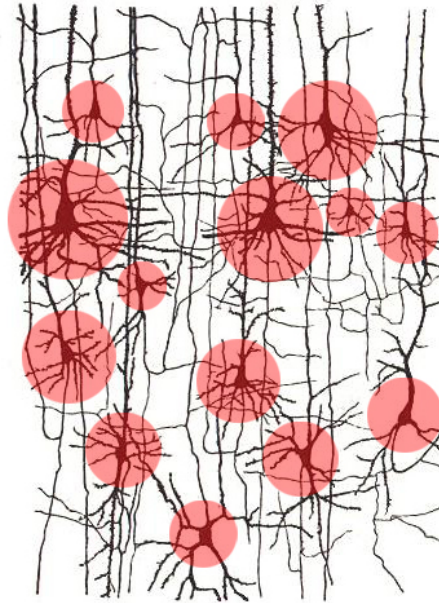
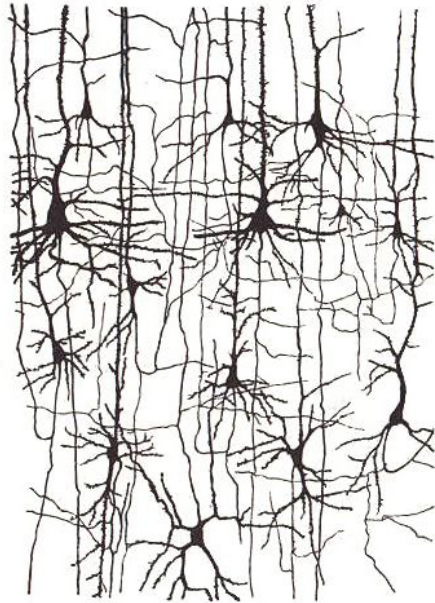
columbus
circle
plaza



View across to abandoned center platform



ac platform
below

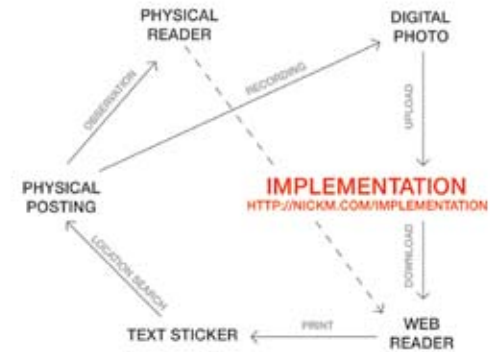
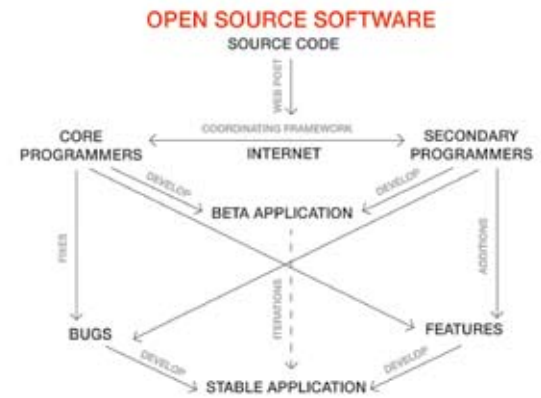
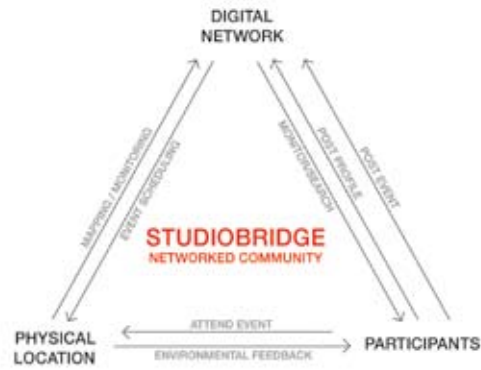


programmatic nodes

Designing the Institution

The design of the Open Library as an institution for this particular environment and these particular needs and activities, became driven by a kind of nodal understanding of programs with the network created between them perhaps somehow even recalling how a neural network functions in the mind or a loose but precise set of relationship between rocks structures a Zen garden like Ryoan-Ji. Throughout such an institution, one might locate certain programs, and, given this tradition of increasing access, one could let users connect them for themselves, in effect, creating their own neural network, their own map that drives their use of the library to the extent that the institution is really made through this use itself. In order to understand this nodal condition and how these kinds of networks might relate, particularly how the physical relates to the digital, I looked at a number of different examples of such systems from different contexts. For instance, the audiobook exchange at Crackerbarrel restaurants provides an interest example where one can get one at any restaurant and return it at any other restaurant, minus a small handling fee. This caters mostly to truckers and is of course just a way to get people in the restaurants to keep coming back to them, but in the meantime you get a book out of it and might learn something. Another informative reference is the YellowArrow.org, 'massively-authored artistic publication' in which numbered, yellow arrow stickers are distributed to the public and used to by people to mark places or sites of significance to them with an arrow and sms back to the central server a text-message now linked to that site for others to read later or to be accessed and compiled on the web.

The Library catalog is to be on-demand – that is, books are obtained principally through printing which is feasible now because printing technology has gotten so good in the last couple years that one can print up to 600 pages



system design studies

in a minute. Since the average book only sells about 2000 copies in its lifetime,⁵ more and more publishers are just printing books as they need them and eliminating the overhead associated with storing, tracking, and moving a large number of books. This technology is leveraged within the open library so that rather than imposing a particular catalog of books on the users, the people can simply print what they need and then a system can be devised to understand how those books will come back to the library using limits and incentives – say the way Netflix works with DVDs – where in order to print another book, you have to bring one back (after the first few months, say) and this might be any book in fact – one might just pick one up in the subway and return it in order to print another.

Because there is an idea that these subway libraries are about knowledge production as well as consumption, people are able to add to this catalog by uploading their own titles or reviews, commentary in response to others' work and increasing the knowledge base in an environment that grants users more agency and blurs the line between creators and users in much the same way open source software does. Additionally, since all the books are printed on-demand, no hierarchical difference is created between an established author and say your grandmother who wants to upload her memoirs or a young adult who's a prolific fiction writer since both are now given this new platform for publishing.

Within the scheme, the subway cars are positioned as the library's reading rooms – since they already are, in effect, and because of the pervasive culture of reading on the subway. This also references the fact that, increasingly, reading occurs in transit – using the cars as reading rooms and leveraging the existing culture of reading on the subway and acknowledging the fact that while we once 'stopped' to read, we now 'go' to read and many people get more reading done while traveling, whether in airplane or a subway car, than they do when in one place, sitting or standing still.

Successful architecture registers use - that is, it shows you how it

⁵ <http://www.fonerbooks.com/paper.htm>



PRINT-ON-DEMAND
BOOK
PUBLISHING



print-on-demand catalog



circulation system to track users, not media

is being used and how to use it. The library is a dynamic institution that is subject to technological and cultural change. As such, it must also be a flexible institution that can adapt to these changes, and so the architecture of the library itself must 'learn.' Similar to how the proposed Beijing Bookstore will register its use by pairing its shelving with a translucent facade, so must the subway library's envelope offer clues, principally through technologies of projection, as to how it is being used.

The circulation of printed matter is conceived so as to be a true, two-way circulation of objects and people around the city. The libraries eschew the label of being the city's printing houses because a certain proportion of the books can come back to the libraries and that can be adjusted and fine-tuned according to a system of limits and incentives. I imagine this would work something like this: In order to print a book (after the initial months of operation) you have to bring one (or two or three...) back and this could be any POD library book - say one your friend gave you or one you found on a subway train. Through a system of limits and incentives the circulation can be then adjusted. This would then work like a simple or 'running' count in blackjack - it's not important what the card it is, only whether it's a ten/face card (in which case you add one to your count) or a not (in which case you subtract one). In this way the size of physical collection can be modulated according to need, and then there are books already printed in the library so that users can browse and grab quickly on the way to a train as an alternative to going to a kiosk, browsing the collection, and waiting 5-10 minutes for the book to print. For material still in copyright, limits would be set on the number of copies at the printer; for instance someone goes to print *The Tipping Point* and just like a ebook loan might be denied by the NYPL because there are too many electronic copies in circulation, that user might not be able to print it because too many other people already have - which of course means that it is more likely - but not guaranteed - to be sitting on a shelf and accessible already. The general idea is that once you have an effective way to limit the number of copies, worries about potentially limitless copying that comes with the digital age can be addressed and so then some kind of licensing arrangement



reading in transit



reading and escape (travel)

can be worked out.

A certain apprehension has accompanied library construction in recent years because many prophesized the imminent death of the book. However, library use is actually increasing of late and those that have been built have paid immediate dividends, typically exceeding anticipated usage. Critical to this success is the notion of the library as a place. Within the library, even if one is accessing the same resources one can get at home on his or her computer, coming to the library to access them is still worth something and it always will be. It still has value because there are other media there and there are other people there. The library is really a platform for interaction among people and between people and artifacts in the library as a place.⁶ It is a place to find oneself with and within others.

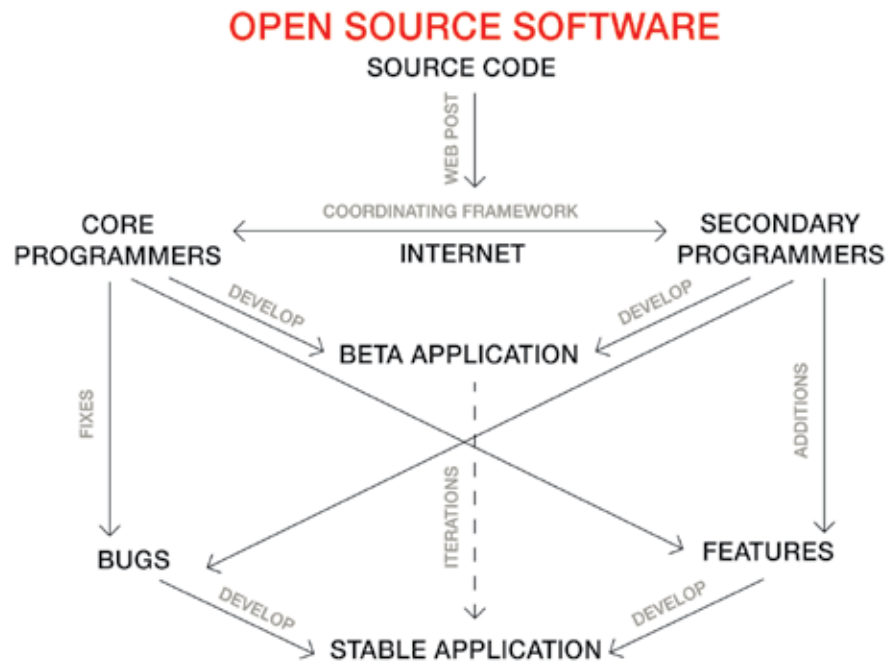
These libraries begin to be translated in to architecture in the light of the idea that reading in a subway car is a kind of escape, a kind of travel itself – physically you are in the car, but maybe mentally you’re somewhere else. These sites in the subway are sort of positioned the same way already – they’re part of the system but aren’t used or access so in a way they’re also outside of it – half in and half out.

The resulting diagram for the open library is a network, formed through use, that connects different programs and activities some of which add to the catalog such as writing, commenting, and giving readings and lectures while others access that content, either through viewing, listening, reading and so on. The net result of this web of activity is a library that continues the development of that institution’s tradition of increasing openness and access by granting users agency, leveraging the culture of reading and the potentialities of the subway environment, and allows for the democratization of knowledge production and consumption.

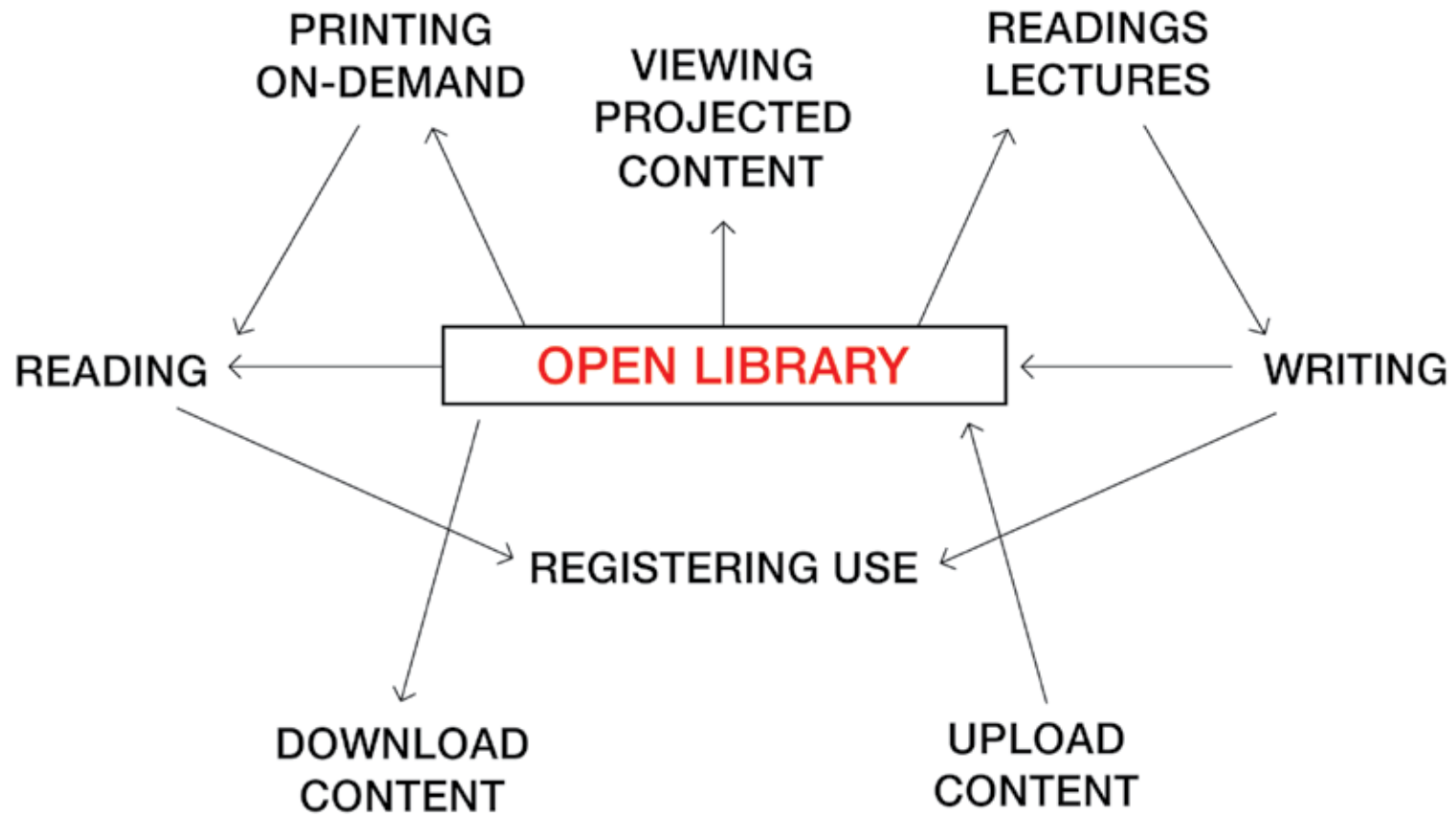
⁶ Freeman, Geoffrey. “Library as Place: Rethinking Roles, Rethinking Space.” Council on Library and Information Resources. Washington DC: 2005 <http://www.clir.org>

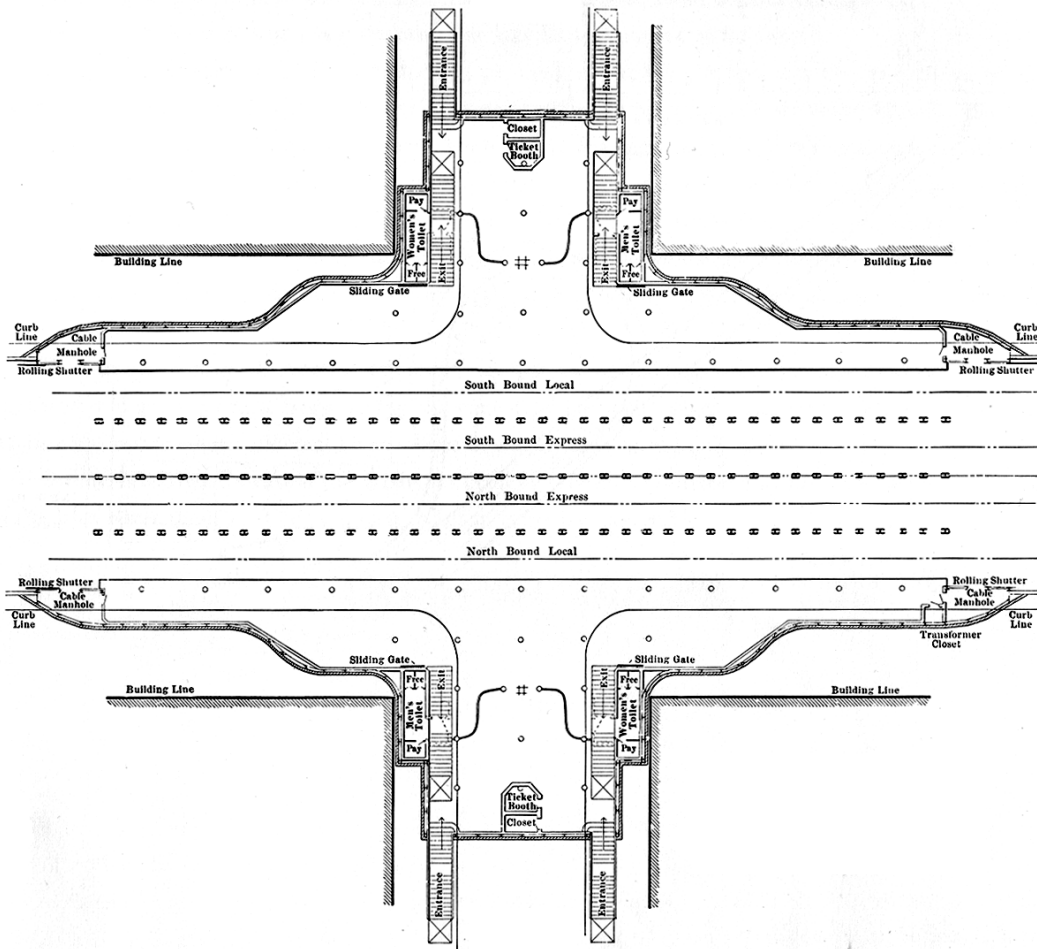


writer's residency space



user agency





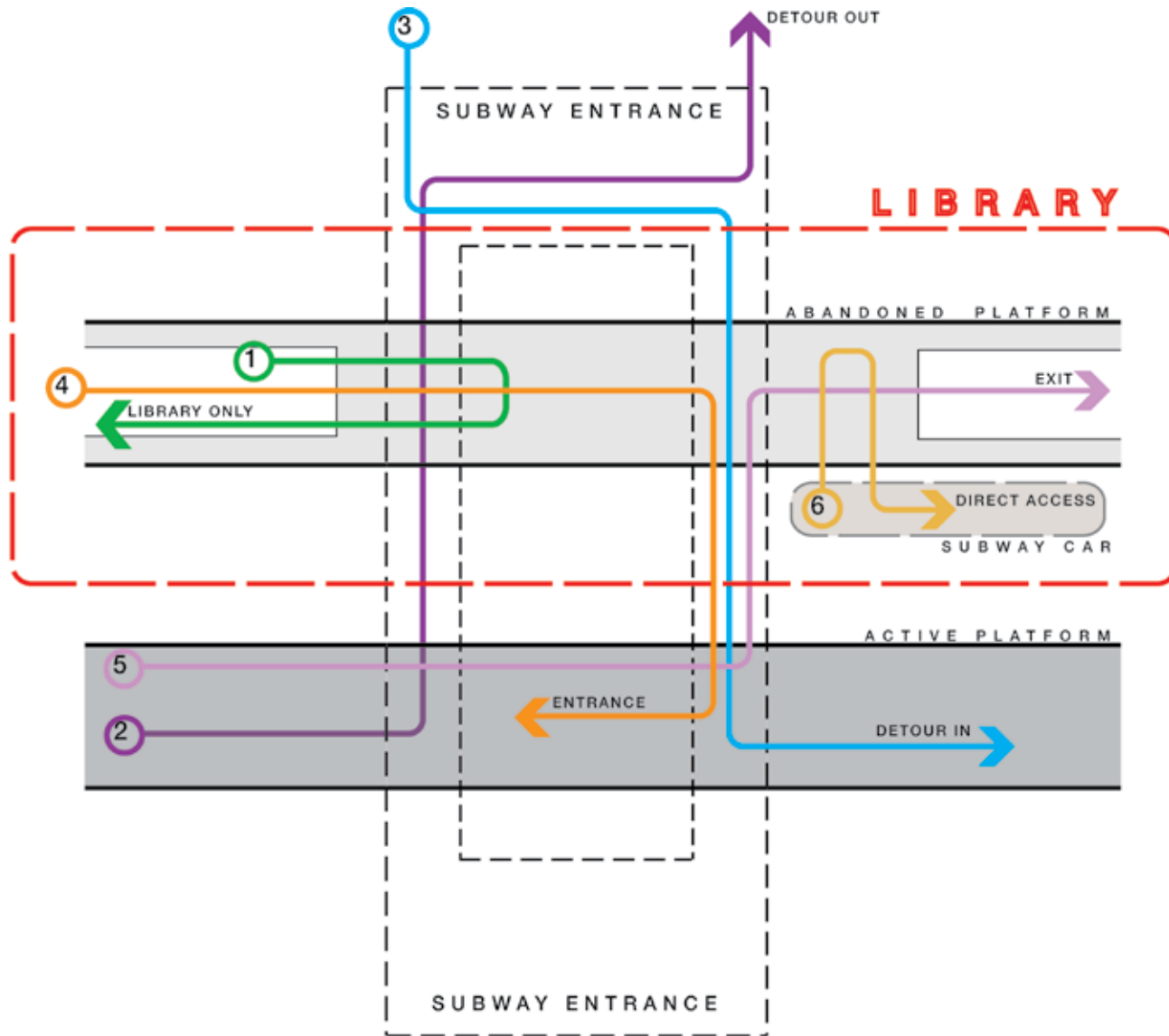
subway as a prototype

Implementation

The implementation of the open library as an institution takes its cues from the subway itself. In the same way that the subway is designed as a prototype based on clearances, technical specifications, and human dimensions, the open library is designed as a prototype – a set of idealized relationships which are then instantiated in various locations in the city and adapted to the realities of that site and its conditions.

The first step of this implementation was to systematically understand the circulation of the subway and the library. Because the library has autonomous points of entry and exit, it can be accessed six ways: using the library as either an entrance to or exit from the subway, as a detour on the way from or going to a subway platform, entered and exited without engaging the subway per se, or it may be entered directly from the first car of the train – in keeping with how people whom are familiar with the subway already orient and locate themselves on the train according where they are going so that they can take a certain stair or exit.

The programs in the library are zoned according to time so as to respond to the needs of the 2 minute user as well as the 2 hour (or even the all day) user. The way this was arranged then, is through a catalog that organizes program within walls that define the narrow platform space as if between 2 reinvented stacks. In the same way the stack is dimensioned according the program of the

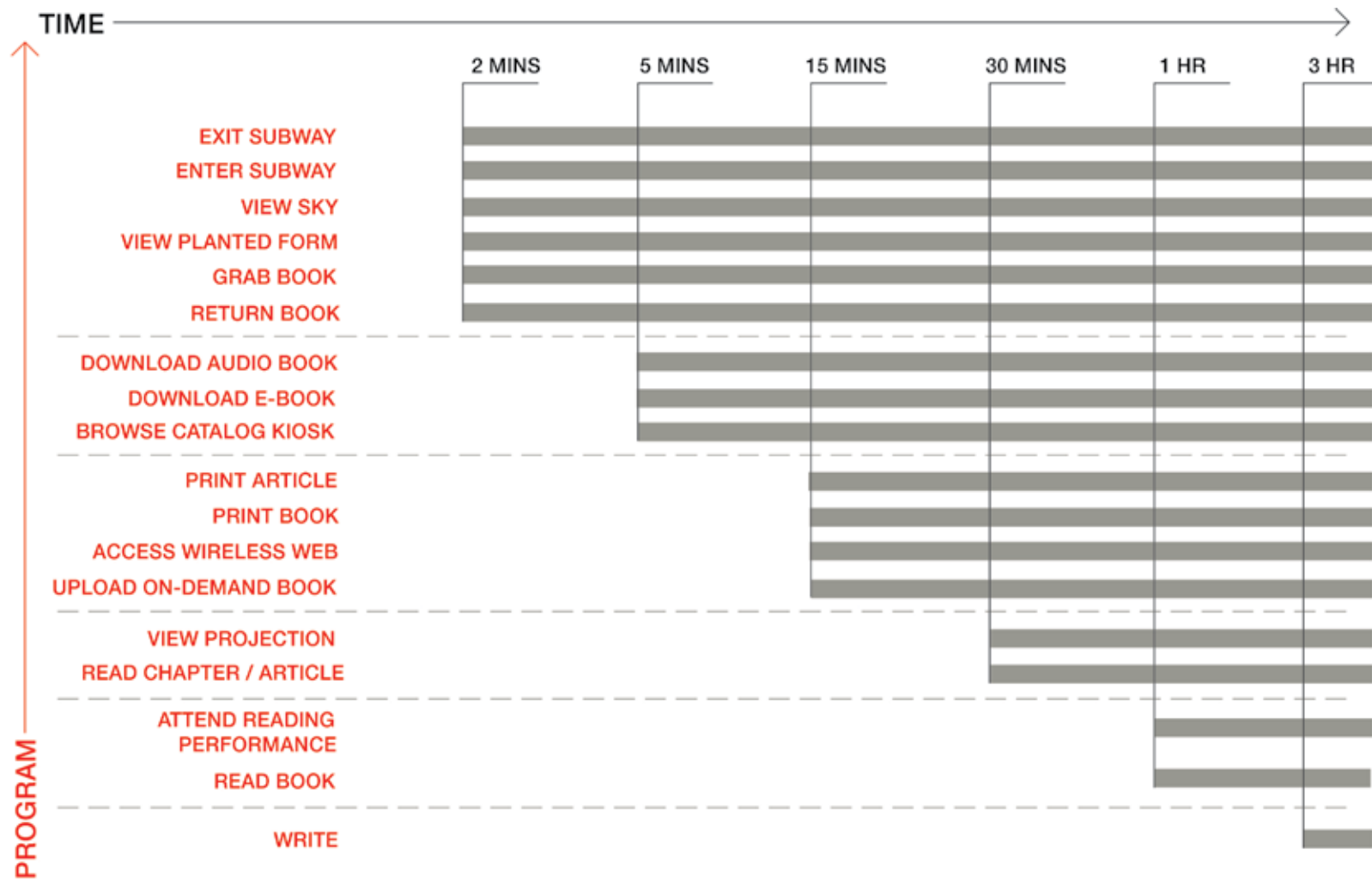


circulation

book, these stacks, formed by the pairing of walls - one glass and one wood – are dimensioned according to the various programs in the library – sometimes as wide as book, sometimes swelling to accommodate an entire room for instance for writers to write in as part of a writers-in-residence program or for a skylit, sunken garden.

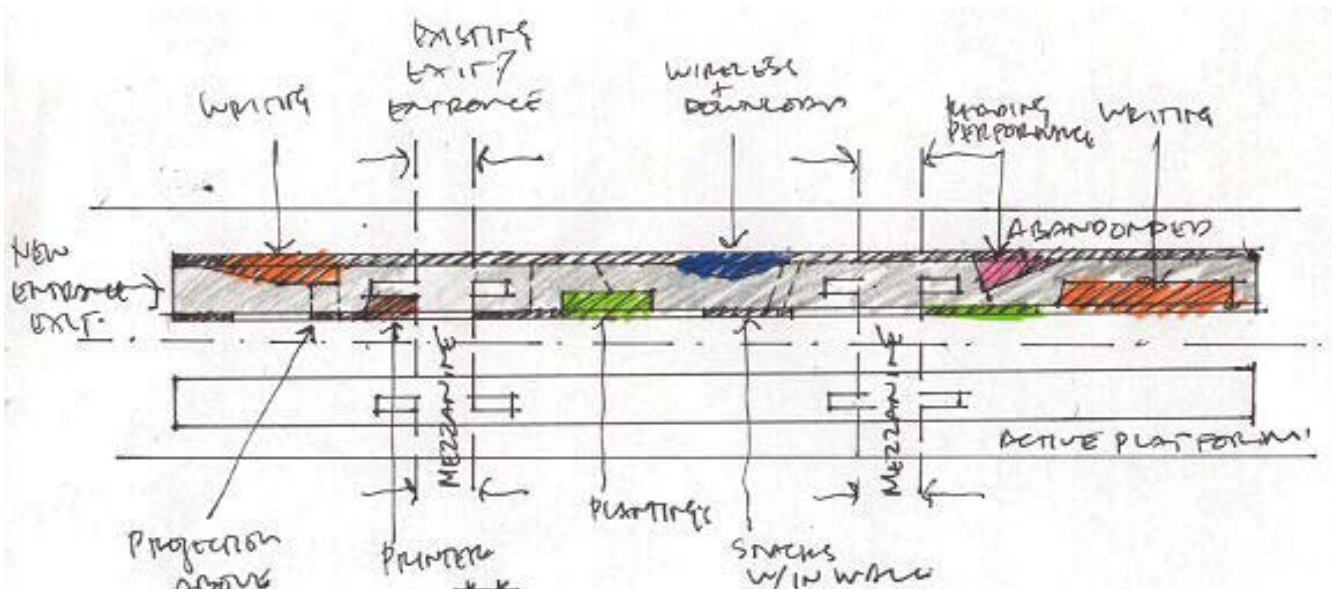
Programs in these walls are arranged according to a catalog that zones the length of the platform, the X-direction, according to time intensity so that the middle zone between the stairs constitutes the fast zone where someone might move through and pick up a book or download an audio book, and then as one moves toward the edges, activities that are located which are more time-intensive like the writing spaces or the auditorium. The Y direction considers the characteristics of the thinness or thickness of the 'stack' walls so that activities that add to the environment or catalog such as the writing spaces, bulge outward as additions whereas when information is removed such is through downloading an audiobook, for example, is articulated by carving out of the wall and registered as a subtraction. Lastly, considering that some activities are as much a part of moving through the library as staying in it, the (Z direction) of the catalog has to do with removal so that, for instance, the writing space are moved up vertically to be a bit more isolated.

The tectonics of the paired wall then has 5 variations according the characteristics of the program inserted – a way of making visually evident what program 'does' to architecture. Each of the types entails a structurally-glazed glass wall facing the subway with aluminum verticals on a 5' module echoing that of the subway. The distance from the glass wall (always at the platform edge accept where it is pushed inward to create a vestibule for direct train access) to the wood wall varies as does the constitution of the wood wall with each type. Each type has a wood vertical on 5' centers, again echoing the subway module, but with the characteristics of the slats infilling the verticals varying systematically according to need:

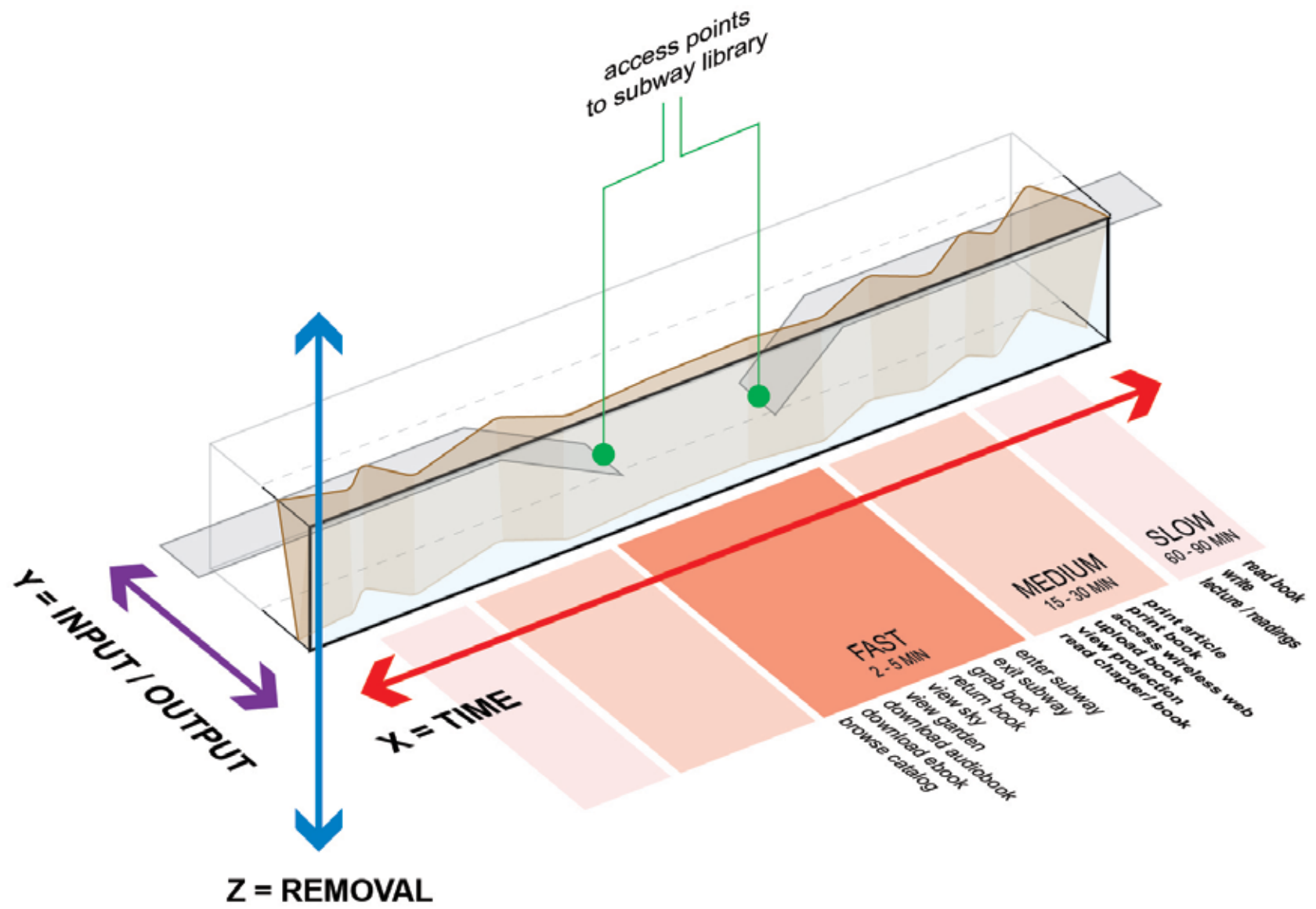


program time-scaling

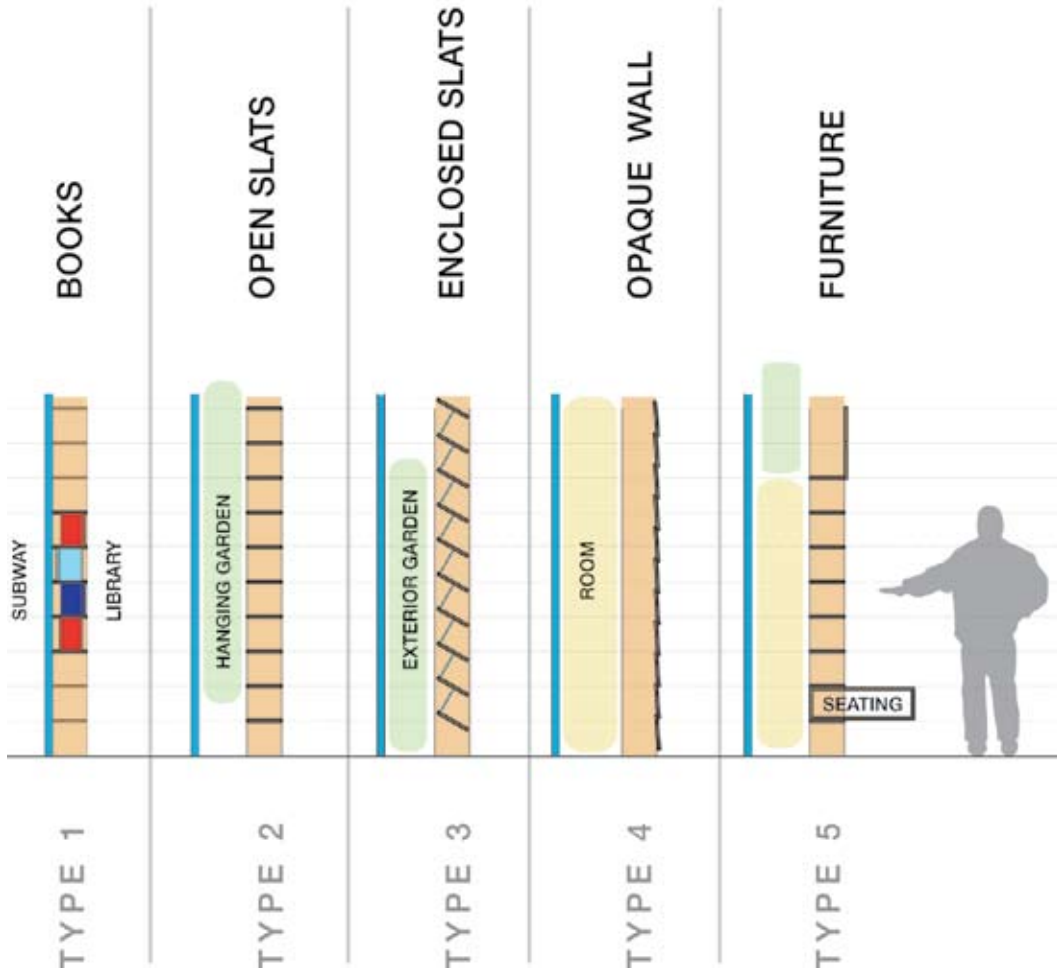
- To contain books, the slats are oriented horizontally to form shelves which are infilled with small slats at 45 degrees in plan so that someone moving through the library can see most of the cover, creating a hybrid of a bookstore's cover-display and a library's showing bindings.
- In the case of a hanging wintergarden, the wood slats are open with no infill and are angled downward to diffuse light.
- In the case of a sunken garden, in order to enclose the exterior space, slightly angled slats are infilled with glass and used to direct one's eye upward..
- In the case of an auditorium or projection room where an opaque wall is required, the slats are turned near vertical and lapped to create an also clabboard-like appearance such that the wall is nearly flat but the slatted system is still evident in relation to the other manifestations.
- Furniture then plugs into the walls between slats in any one of or in a combination or the above configuration. This furniture as well as any interior ceilings, floors, or steps may also span between the slats connecting the paired walls at each side.



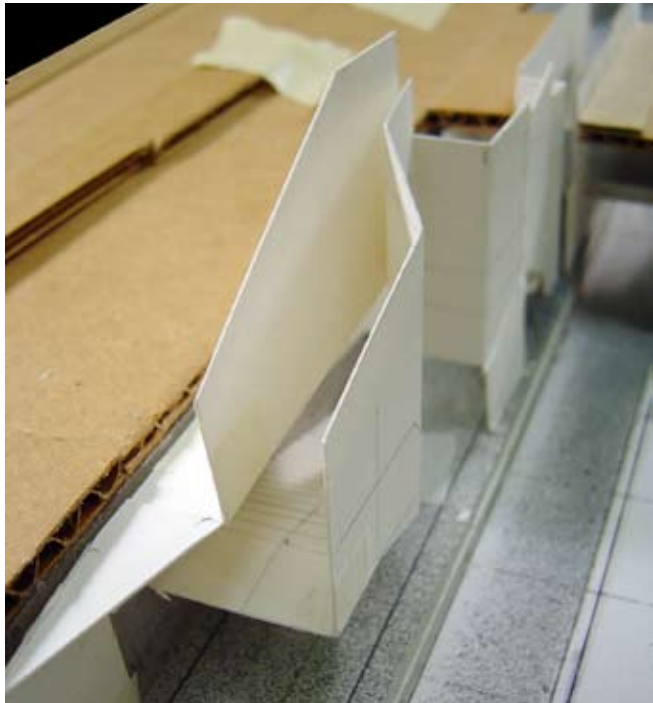
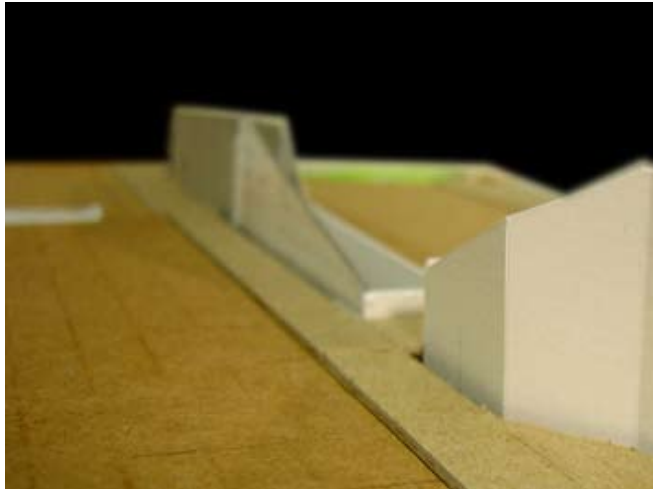
reinvented 'stack'



spatial catalog



'stack' tectonics



prototype



Instantiation

A Day in the Life....



Writer

Web
Designer

Gallery
Assistant

Tourist

Retiree

These ideas were then concretized in the design of a prototype library for an imagined or ideal site that combined elements of each of the actual sites. Rather than design three different libraries and designate, say one for humanities, one for science, and so forth, the Open Library was then installed into each of the sites and adapted to them to create a series of variations on a theme and convey the paradigm of distribution without dictating a fixed set of relationships between the libraries. Because this library is about user agency and openness and about people making the library for themselves as the library itself learns, the three designs will be shown through use - through the eyes of 5 people as they move through the city, the subway, and the library.



Writer



She leaves home in Astoria, Queens and takes NW to Canal Street.

8:03am

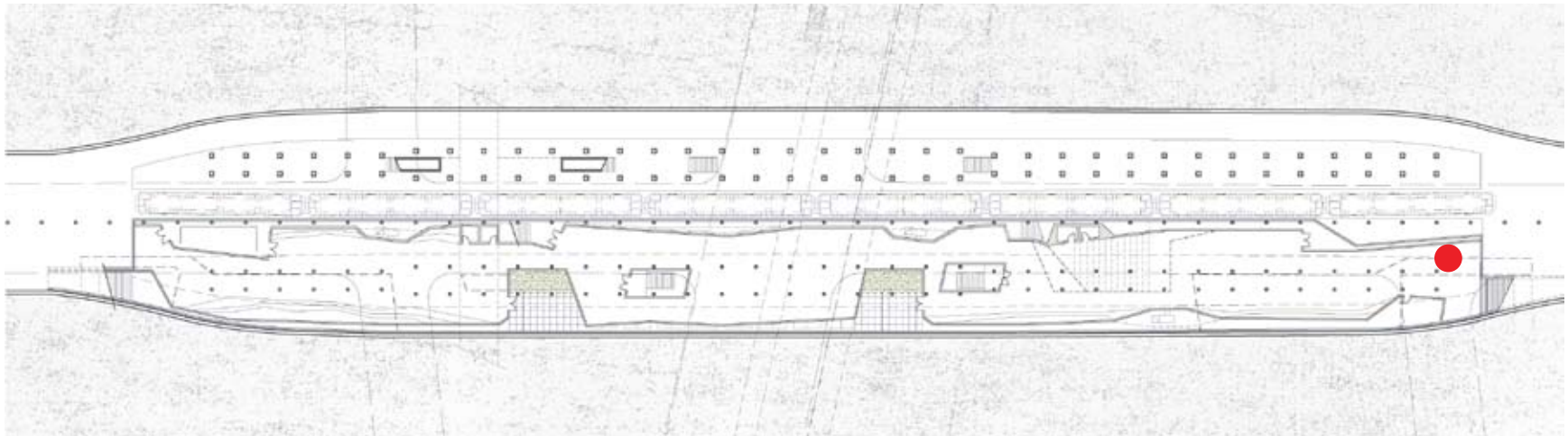




A short while later, she arrives at Canal Street Station and nearly misses her stop, having been so engrossed in proof-reading her novel.

8:41 am

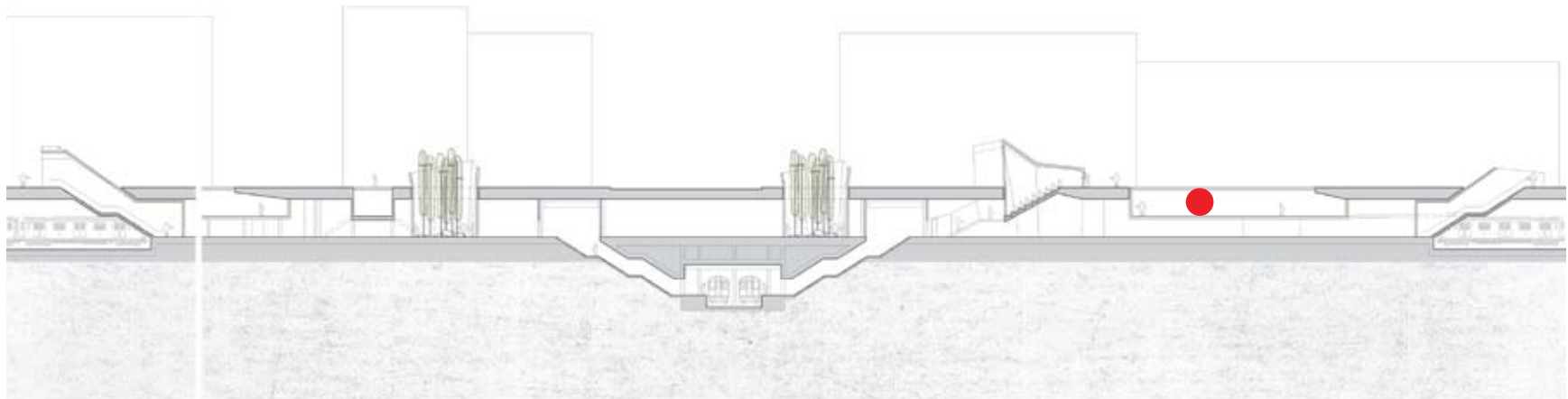




After running an errand, she enters the Canal Street Library through a dedicated entrance from the street.

8:43am

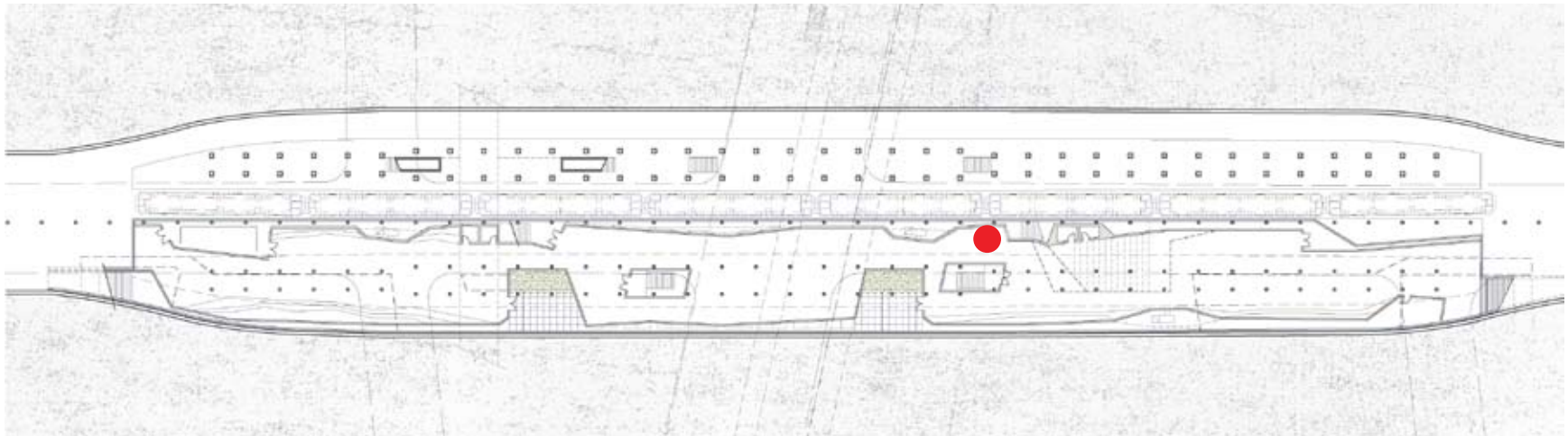




She goes up to her desk within the Writers-in-Residence space, chats a bit with friends and settles in to put the finishing touches on her manuscript.

10:05am

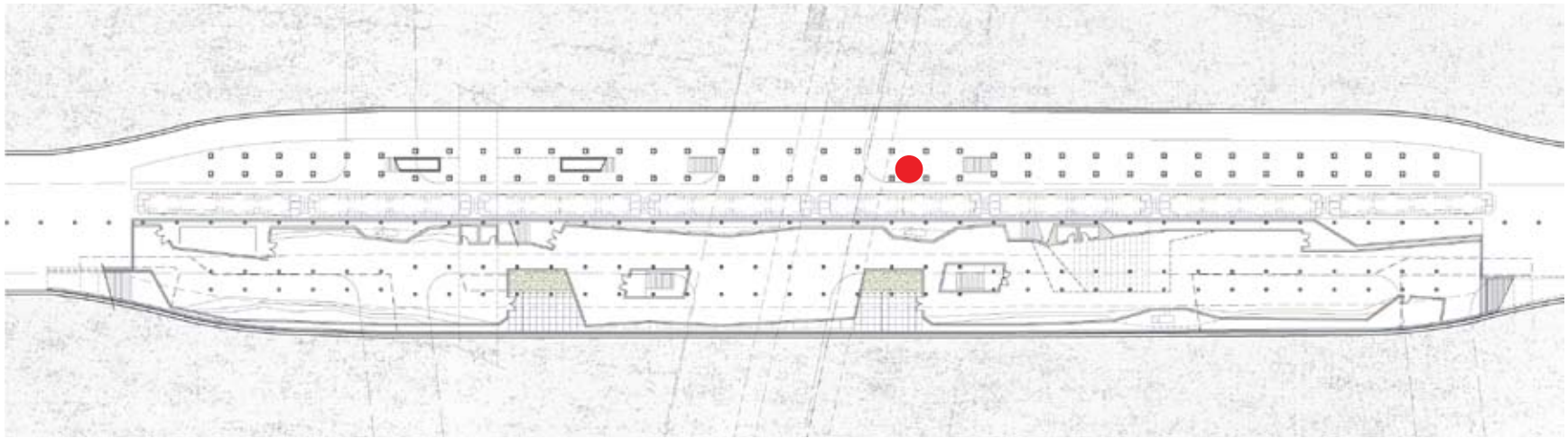




After a couple hours, she goes downstairs to the public upload station and uploads her manuscript to the Catalog. It takes her about 30 minutes.

12:10pm

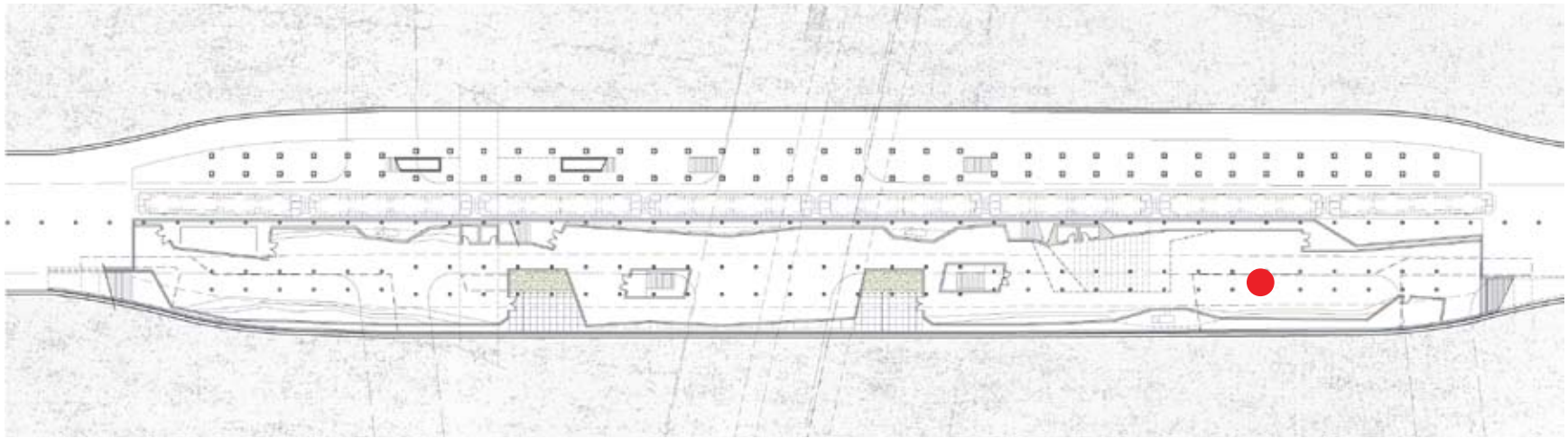




After being automatically scanned for content, it is assigned an ISBN and a LOC Call Number and appears of the "Recent Uploads" section of the media walls city-wide.

1:04pm



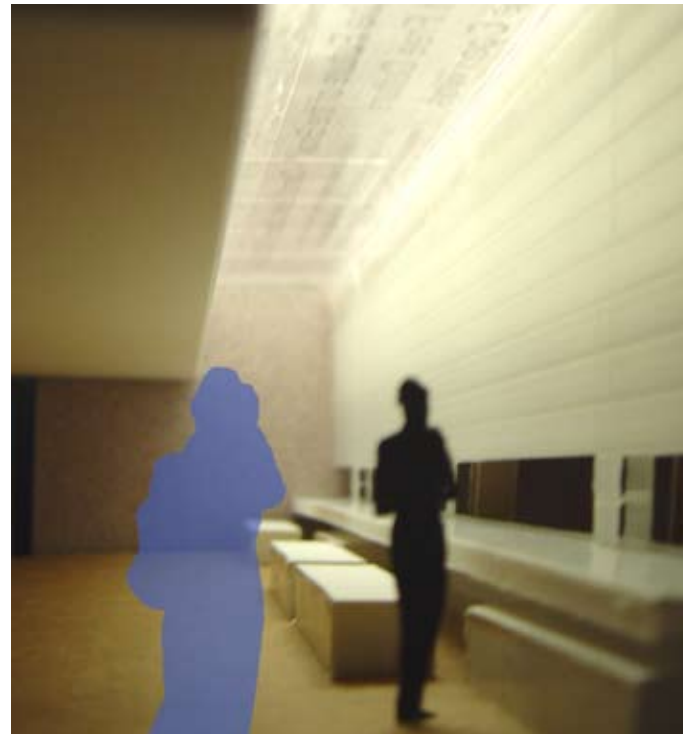


CANAL STREET



She returns to her writing space to email friends and family about how they can get her book at any subway library and awaits a celebratory dinner.

2:07pm

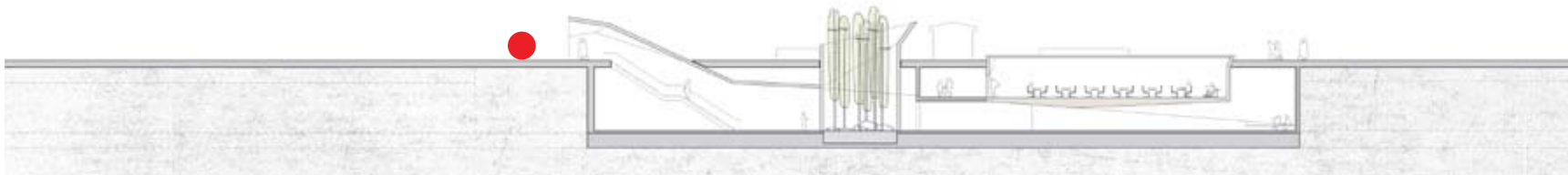




She leaves the library and transfers within the station to take the 6 Train South to Brooklyn Bridge Station to meet a friend.



5:31pm



She leaves the Brooklyn Bridge Station smiling after passing through the library on her way out and seeing her title appear on the media wall.

6:12pm



**Web
Designer**

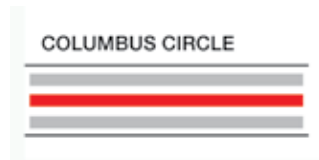
1



He walks a couple of blocks from his apartment on the Upper West Side to the subway at 96th Street and Broadway and takes the 1 train South to work in TriBeCa

7:21am

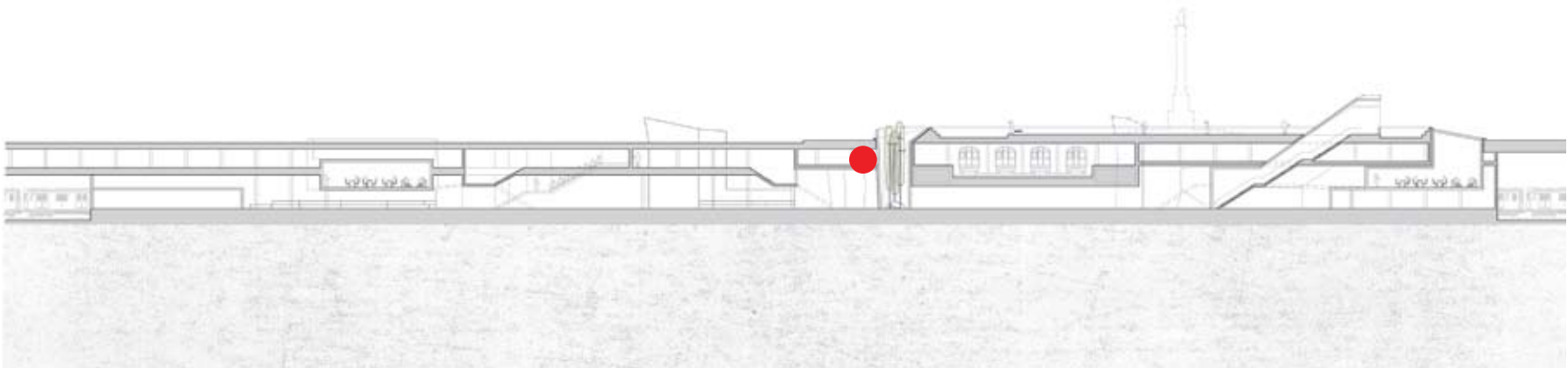




Since it's raining, he gets off at Columbus Circle to transfer to the AC train to get him a bit closer to work on the other end.



7:43am

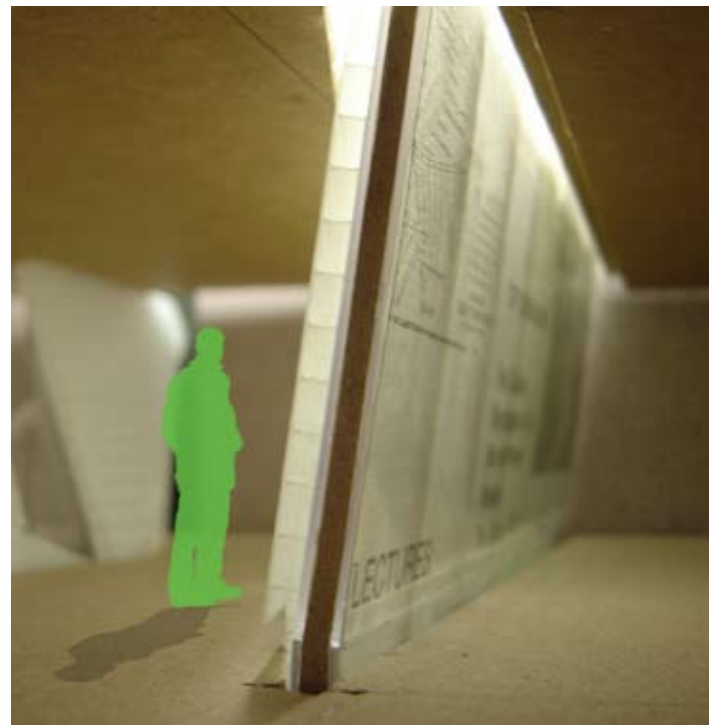


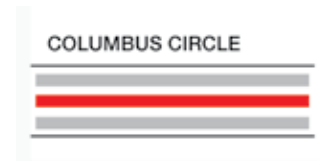
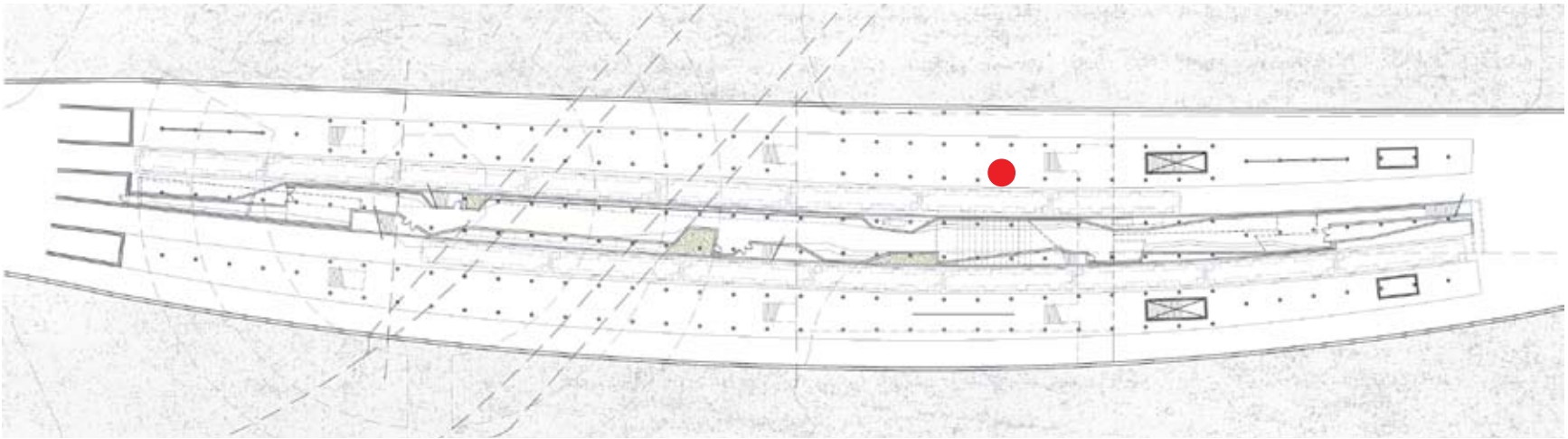
COLUMBUS CIRCLE



While transferring between lines, he walks by glass volumes containing paper stacks feeding printers below and a hanging garden which both penetrate the station's mezzanine level.

7:49am





While waiting for the A train, he looks at the Columbus Circle Station Library across the platform and notices an interesting lecture happening there that evening.



7:54am

A

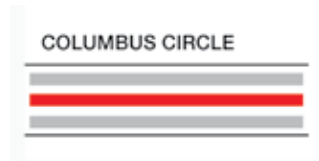
C



He continues on to work in TriBeCa, listening to an audiobook about Wheat during the ride and the walk South, glad the rain has already stopped.

8:03am

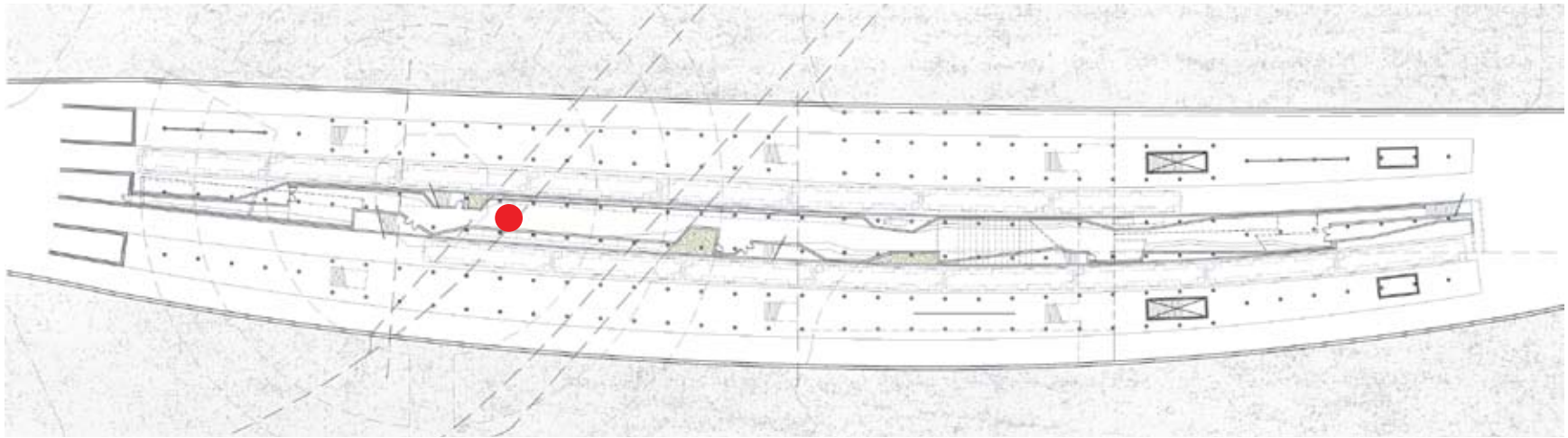




After work, he returns to Columbus Circle to go to the lecture he found out about this morning. He stops along the way to buy some more grey clothing.



6:03pm

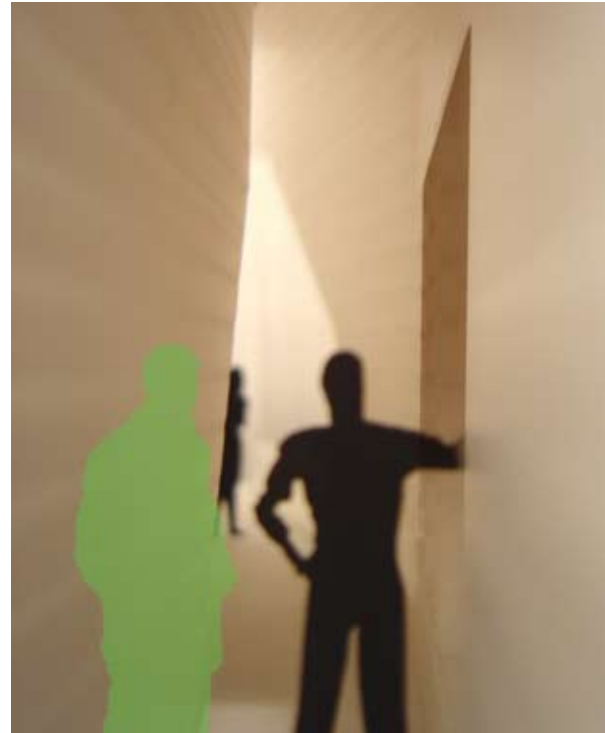


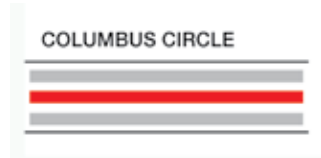
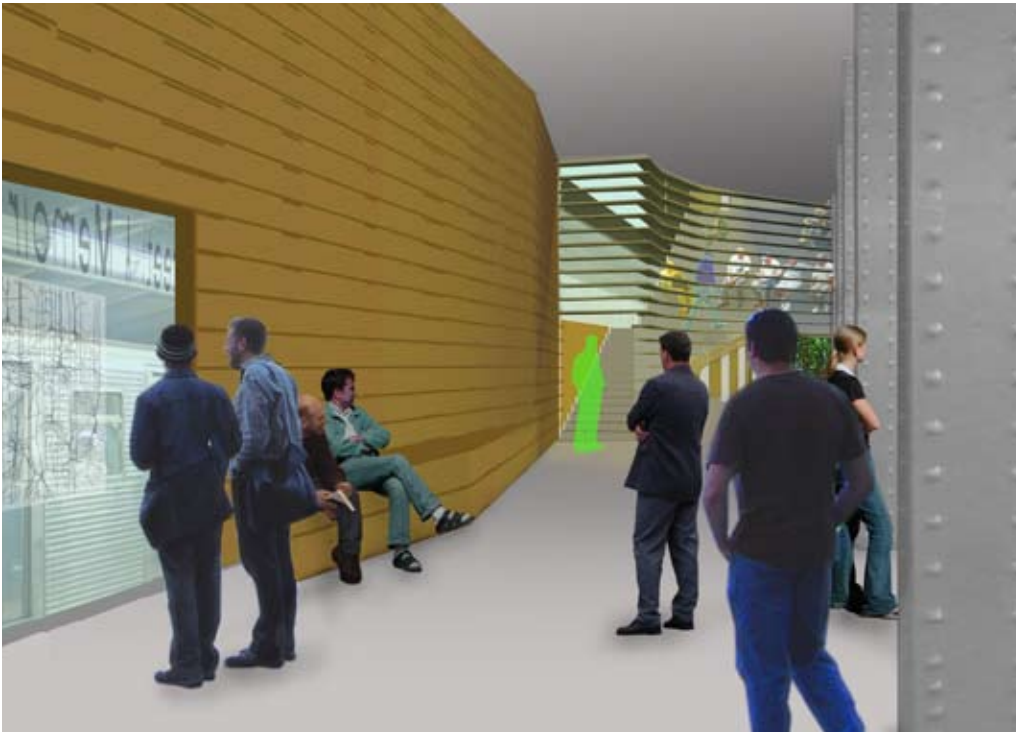
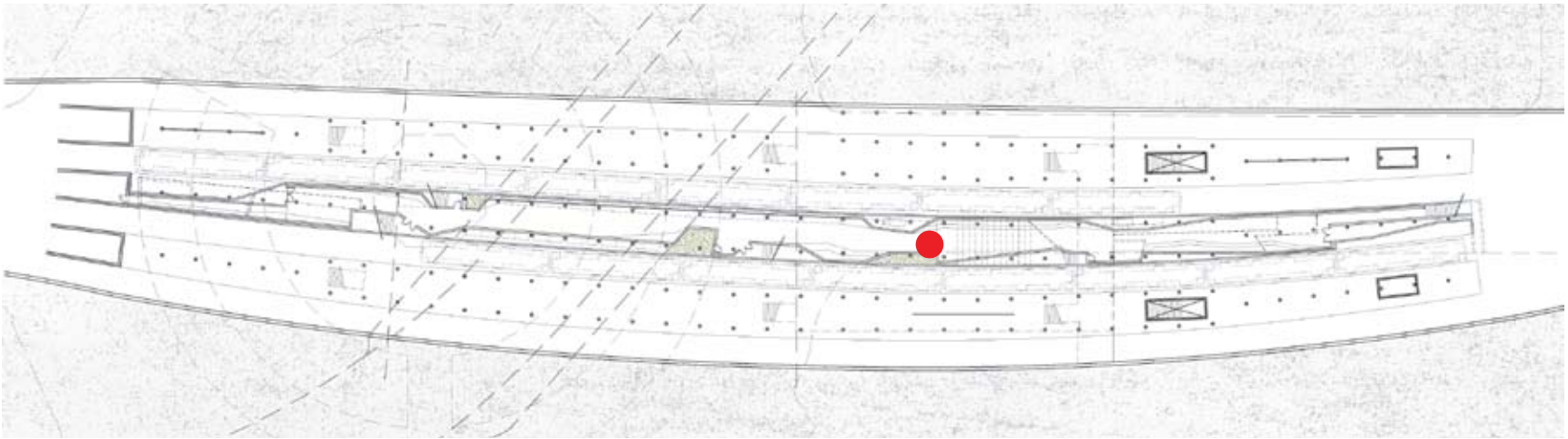
COLUMBUS CIRCLE



At Columbus Circle, he downloads an ebook for his train ride home and an audiobook to listen to at work the next day or so.

6:21pm

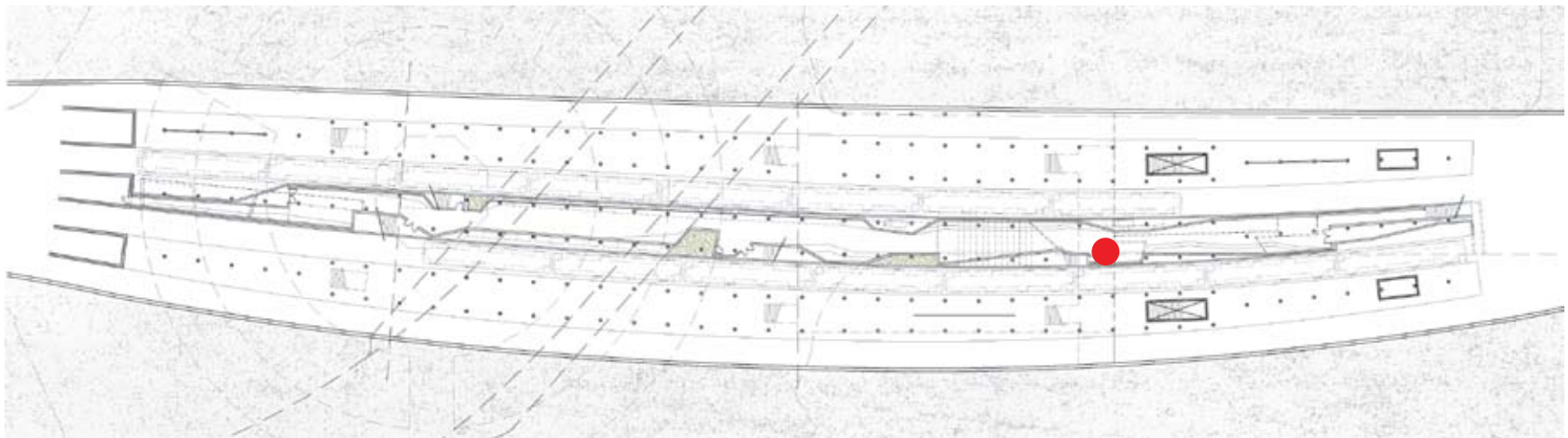




He goes into the auditorium and takes a seat near the top so that he can look through the skylight at everyone in the 'mall' at AOL Time Warner Center across the street until the lecture starts.

6:30pm





COLUMBUS CIRCLE



On the way out, he pulls out his laptop and takes a few minutes to check his email, hoping he received a last minute e-vite for a party later that evening. Disappointed, he heads home

8:11pm





**Gallery
Assistant**



She leaves home in Williamsburg, Brooklyn and takes the L train to 14th Street and 8th Avenue. She's carrying a vintage lunchbox and wearing a knit cap even though it's summer.

8:04am

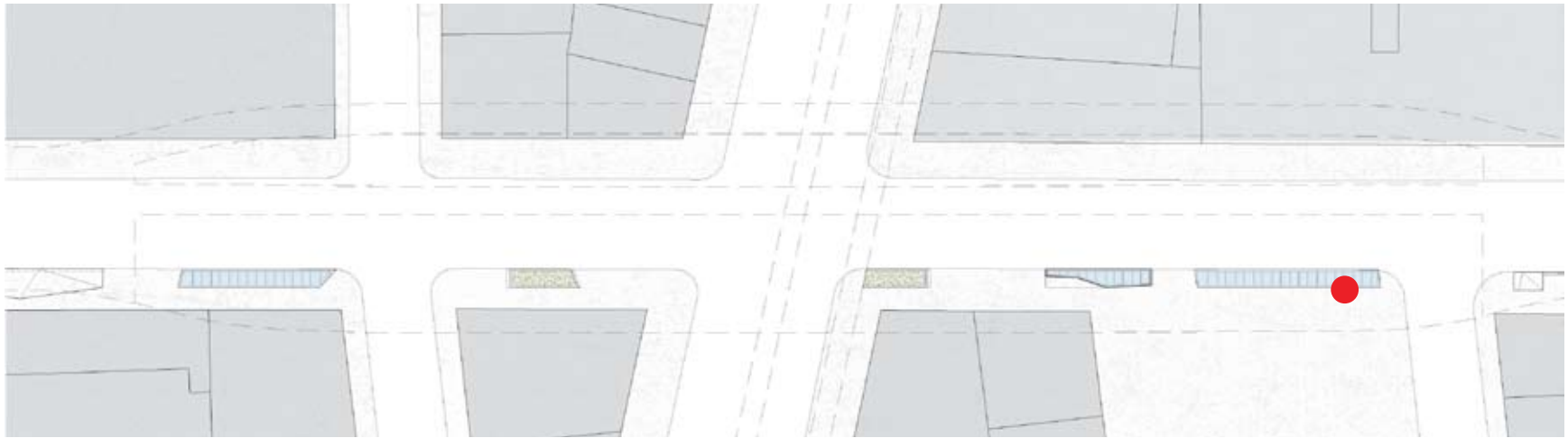




She transfers to the AC line and heads South to a gallery in TriBeCa. On the train, she gets too hot and so takes off her hat and starts using *AM New York* as a fan.



8:22am



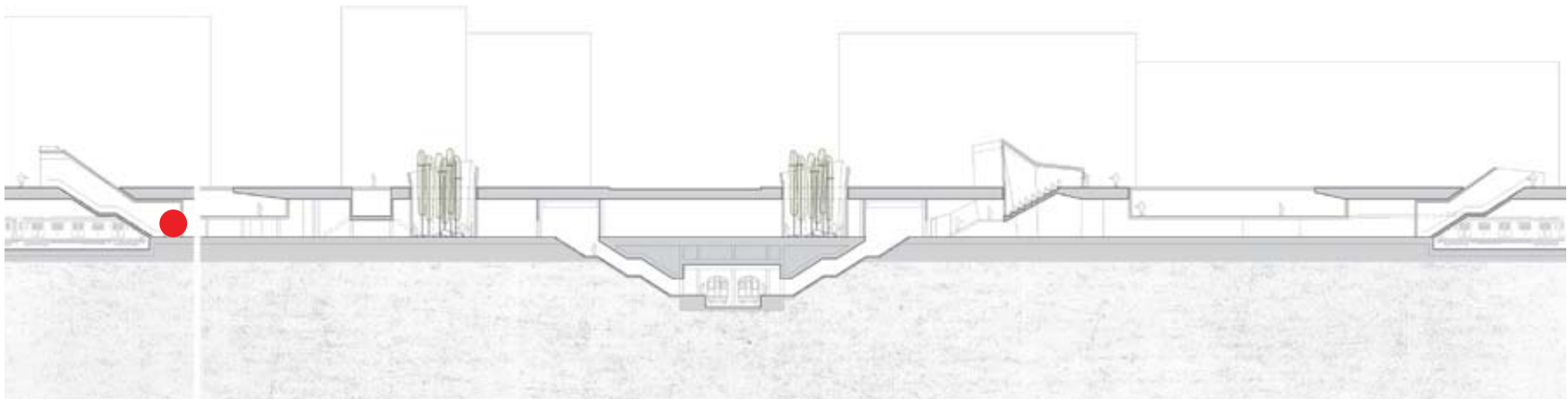
CANAL STREET



On her lunch hour, she walks down Canal Street and looks at the streetscape of the library, vaguely making out some silhouettes of people moving around below.

12:07pm

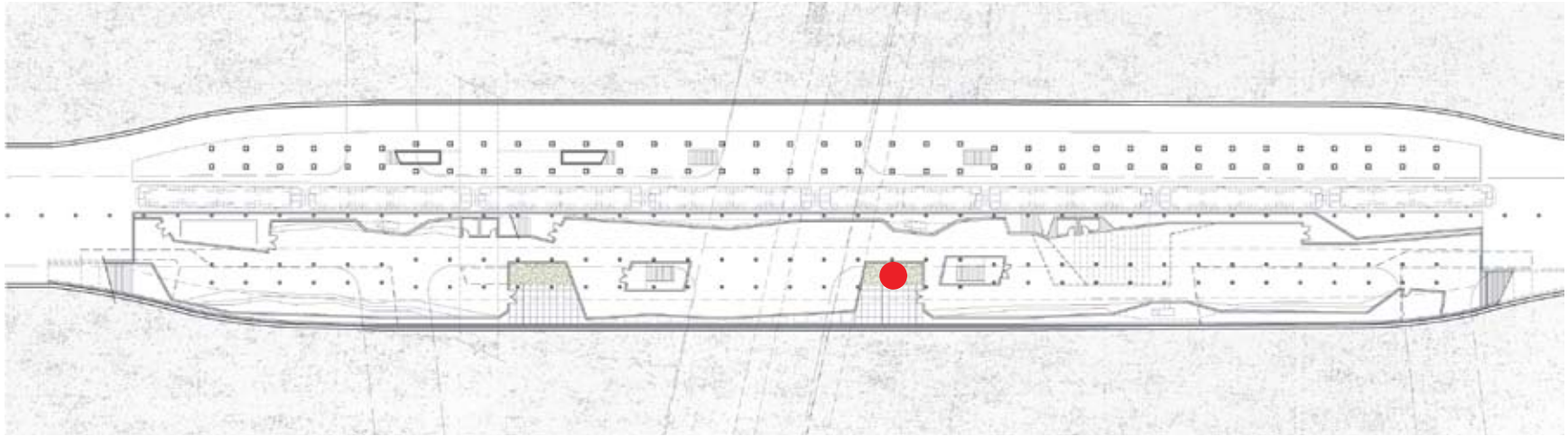




She enters the Canal Street Library directly from the street above and takes a minute to read which titles have been printed the most today.

12:09pm





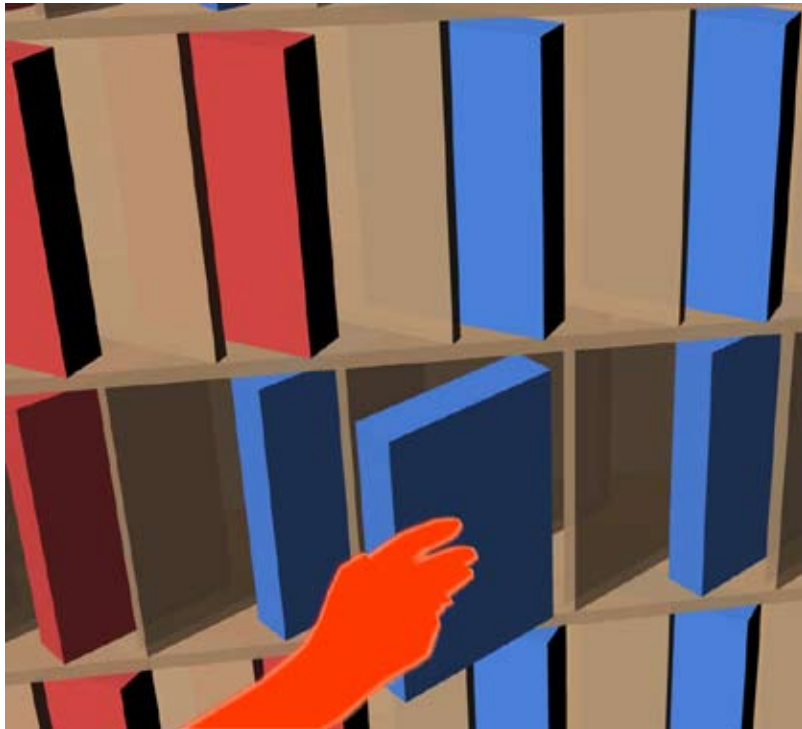
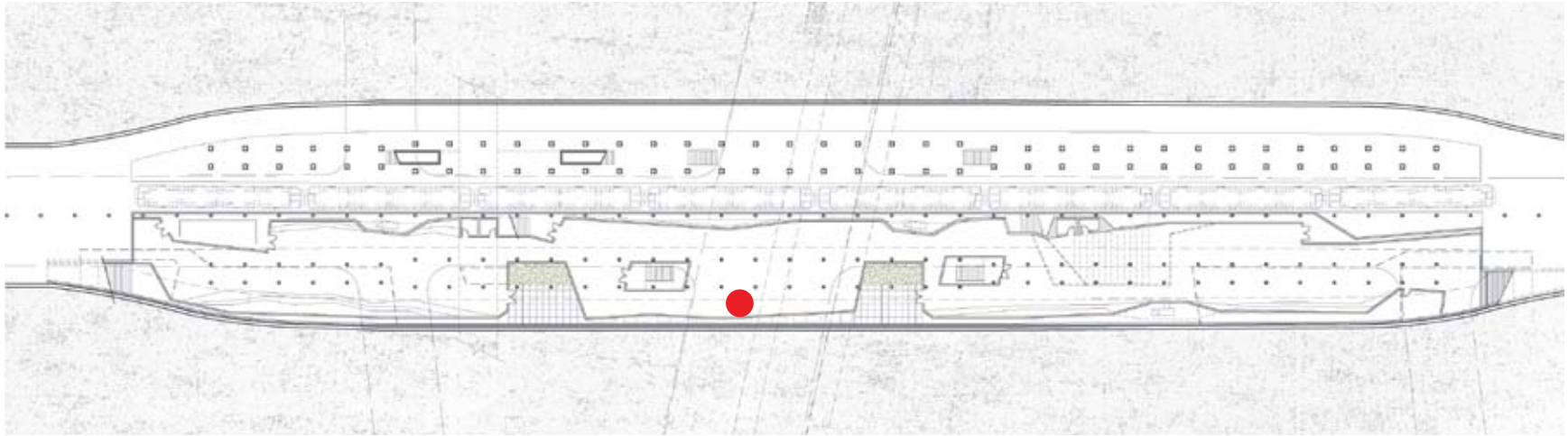
CANAL STREET



Once inside, she decides to take her lunch in the sunken garden inside the library though its's still a bit wet from this morning's showers.

12:17pm

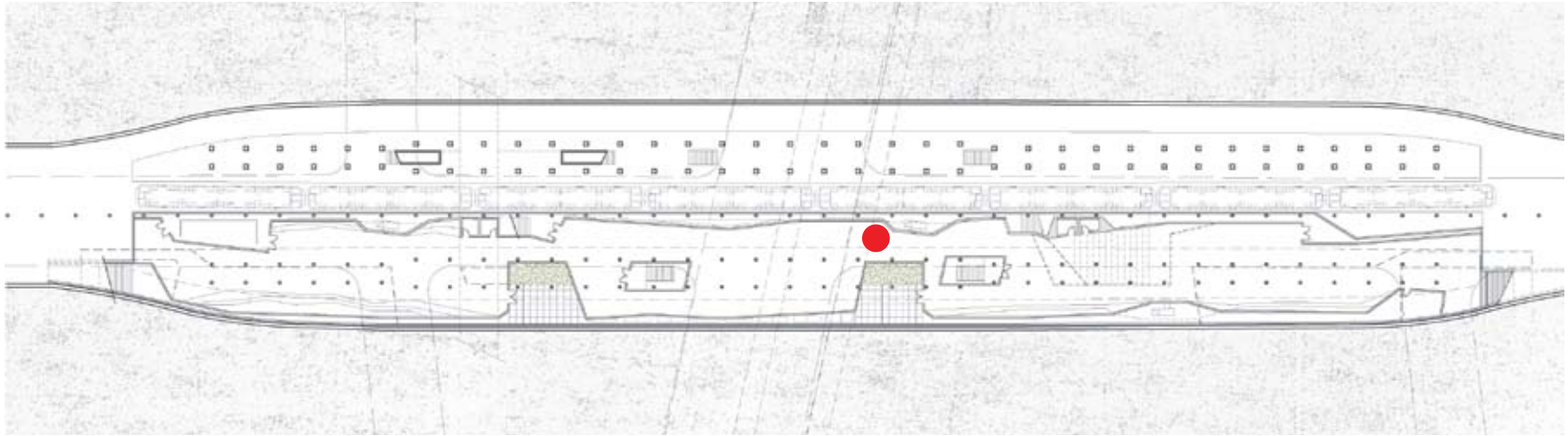




After lunch, she returns a book so that she can print another one. She reads a sign which correlates a book color to call number and returns it to the shelf.

12:42pm





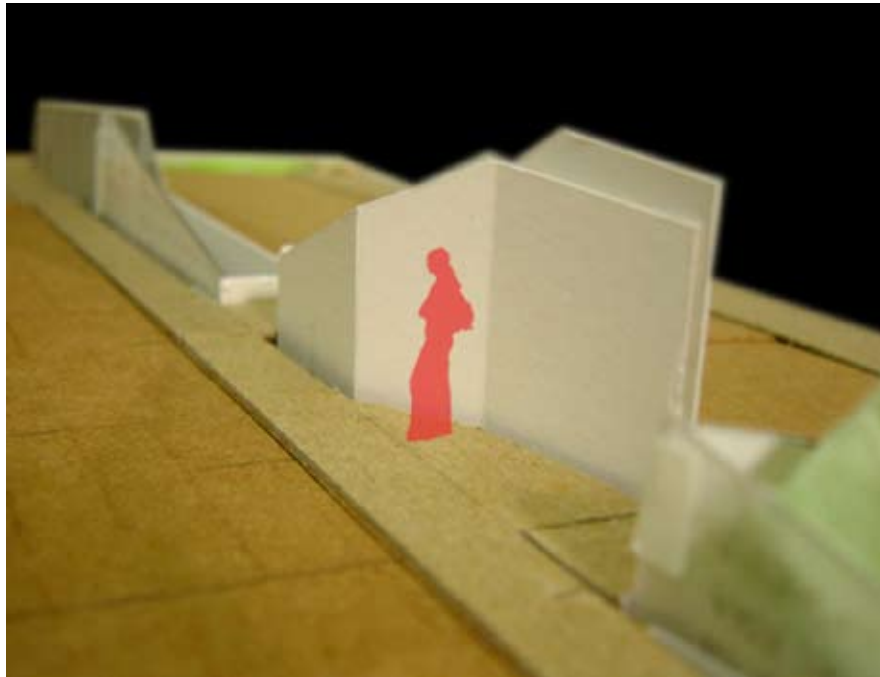
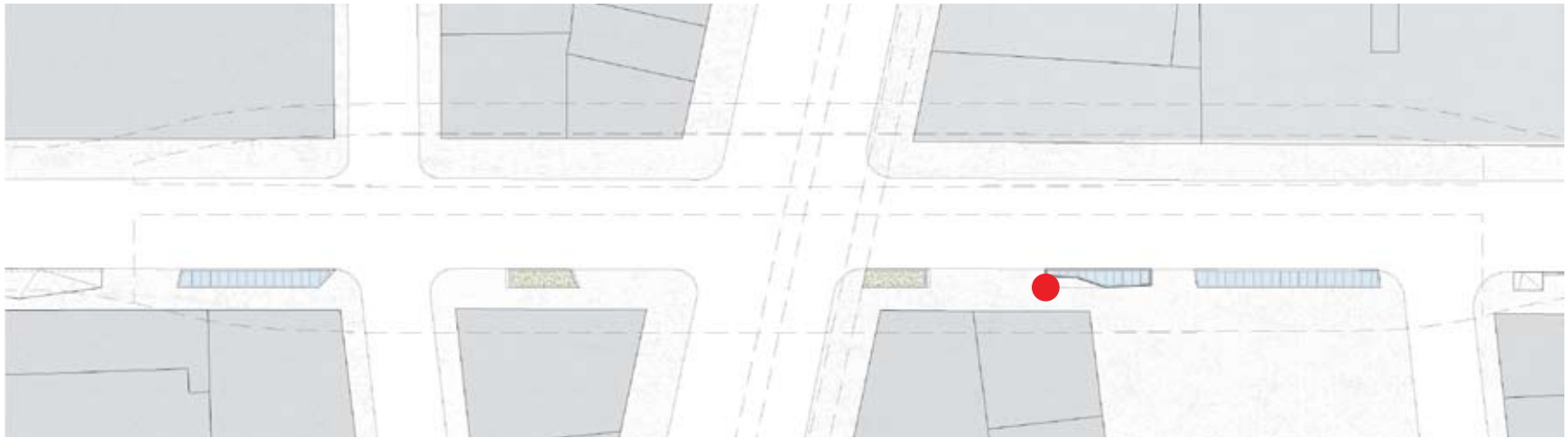
CANAL STREET



She then prints out a book from the on-demand catalog. It takes her about 5-10 minutes to browse it and then 3 minutes for it print.

12:45pm





She exits the library and walks back to work. On her way, she peers down one of the sky-lit, wood volumes to look back on where she came from.

1:01pm





CANAL STREET



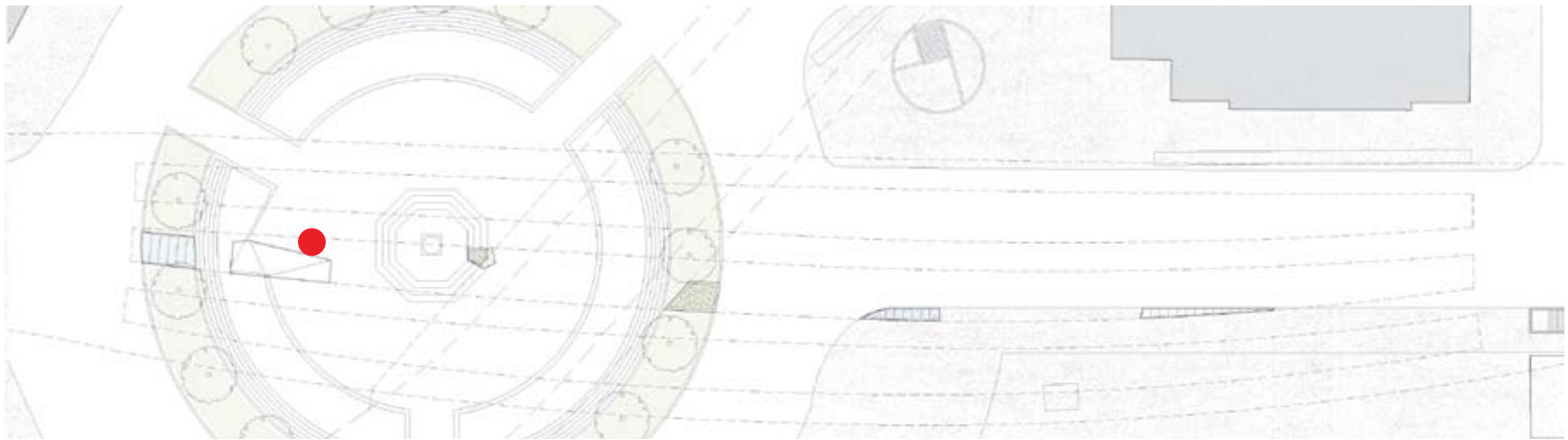
After work, she takes the L train home, reading her new book. She soon realizes that the 6" x 9" book will fit inside her vintage lunch box and smiles the whole ride home.

5:07pm





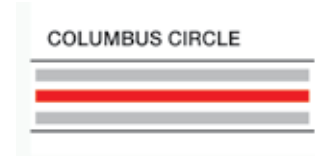
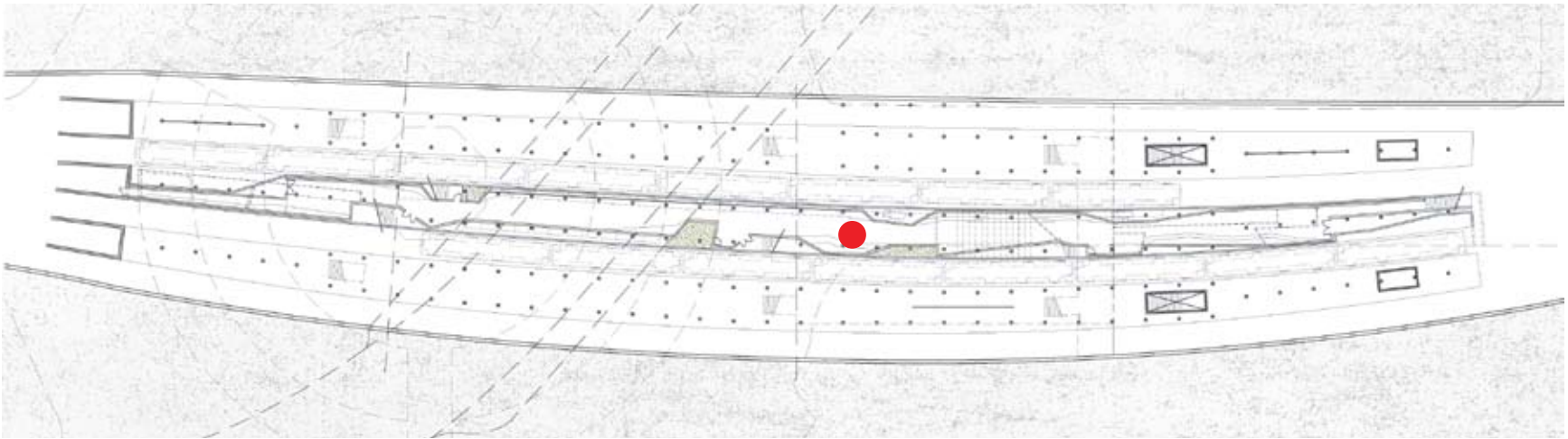
Tourist



He leaves his hotel in the theatre district and walks North to Columbus Circle. He notices wood structures surfacing from below and then ventures inside.

11:02am





Inside, he wanders through the library, impressed with the how light and plantings are brought down below grade.

11:22am



NR



Intrigued after learning about other such libraries in the city, he decides to check the others out as well. He walks a few blocks South and takes the NR to Canal Street.

11:52am

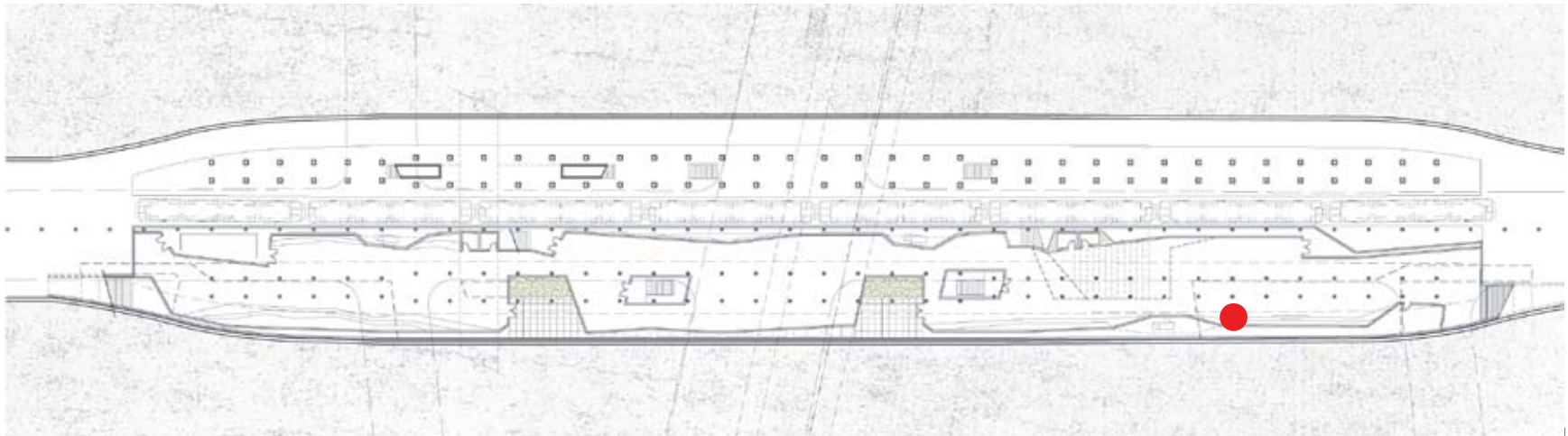




He arrives at Canal Street, walks through passages connecting the NR, 6, and JMZ trains, and enters the library at its midpoint - emerging from a stair from the NR platform.

12:09pm





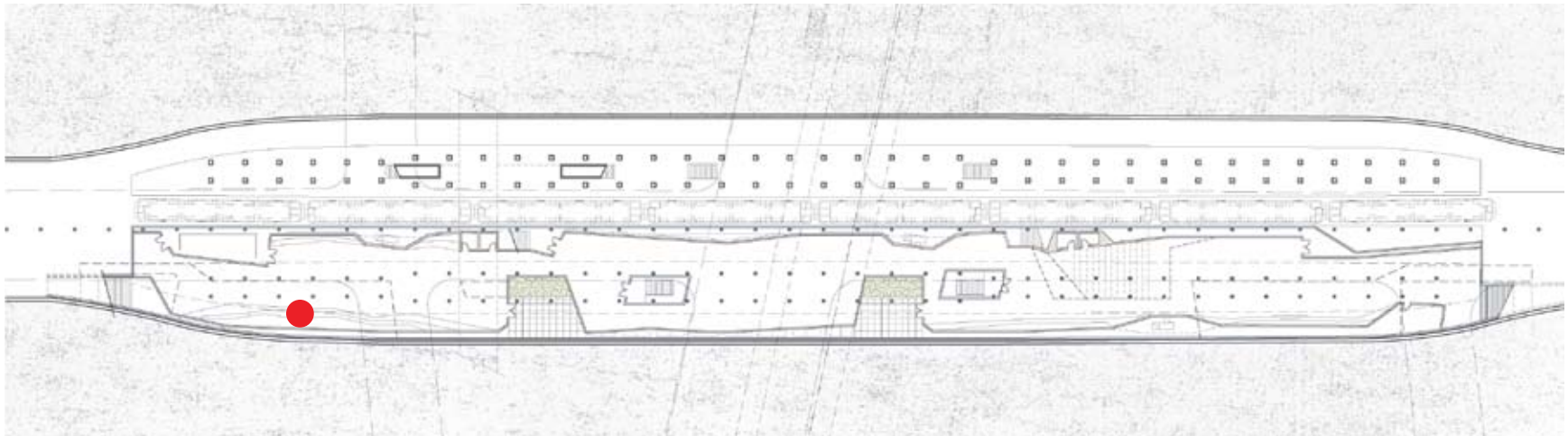
CANAL STREET



He moves through the Canal Street library and notes that it is similar in appearance and layout to Columbus Circle but seems to be much wider than where he just came from.

12:22pm





He sits down to consult his travel guidebook. He then decides he'll continue South to the Brooklyn Bridge Library to read more about the bridge and then walk across it.

12:37pm



6

CANAL STREET



He exits Canal Street the way he came in and then uses the NR platform to transfer to the 6 train downtown to its terminus, Brooklyn Bridge.

12:44pm

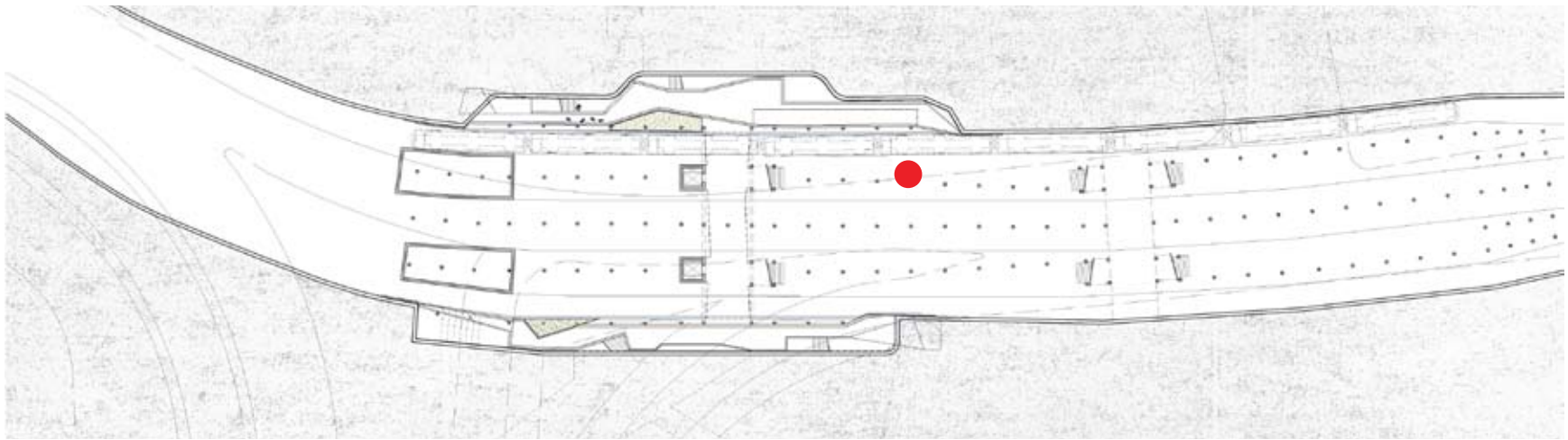




He arrives on the downtown platform from Canal Street.



12:58pm



BROOKLYN BRIDGE



He sees the library across the platform, pausing a minute since he'd only seen the other two from the inside. He gets into the library from the mezzanine and studies the Bridge before walking it.

1:03pm





Retiree

6



She leaves home in the Upper East Side for an appointment at City Hall, taking the 6 train to Brooklyn Bridge. She reads the *New York Times* on the train.

9:33am

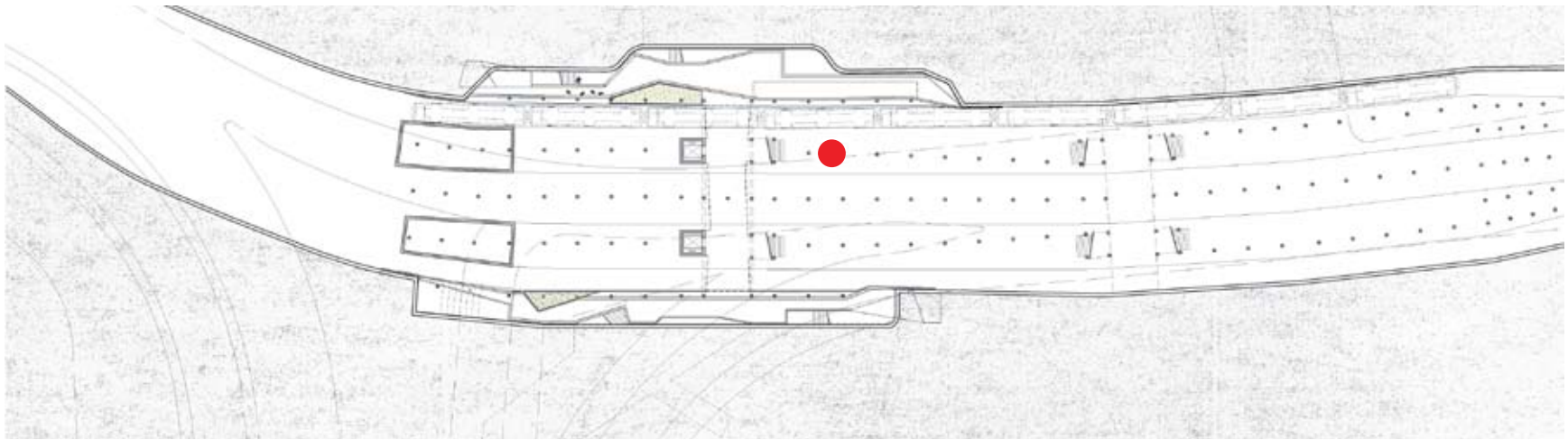




She arrives at Brooklyn Bridge. She puts away her newspaper and heads toward the exit.



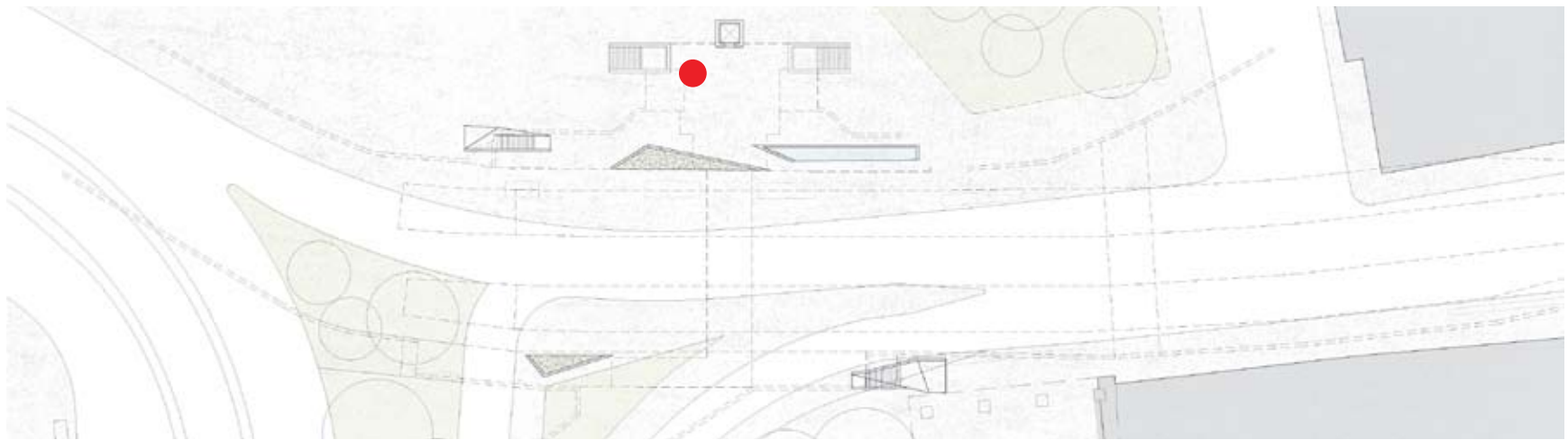
9:54am



On her way out, she notices the library but is late for her appointment and so doesn't enter.

9:57am

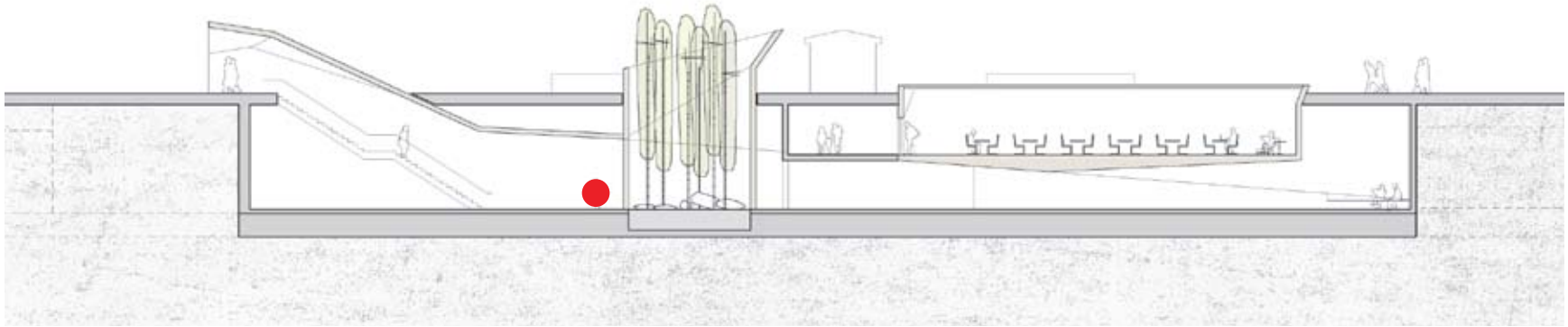




She exits the subway onto the plaza above, hoping the meeting will go quickly so that she can return to the library.



10:00am



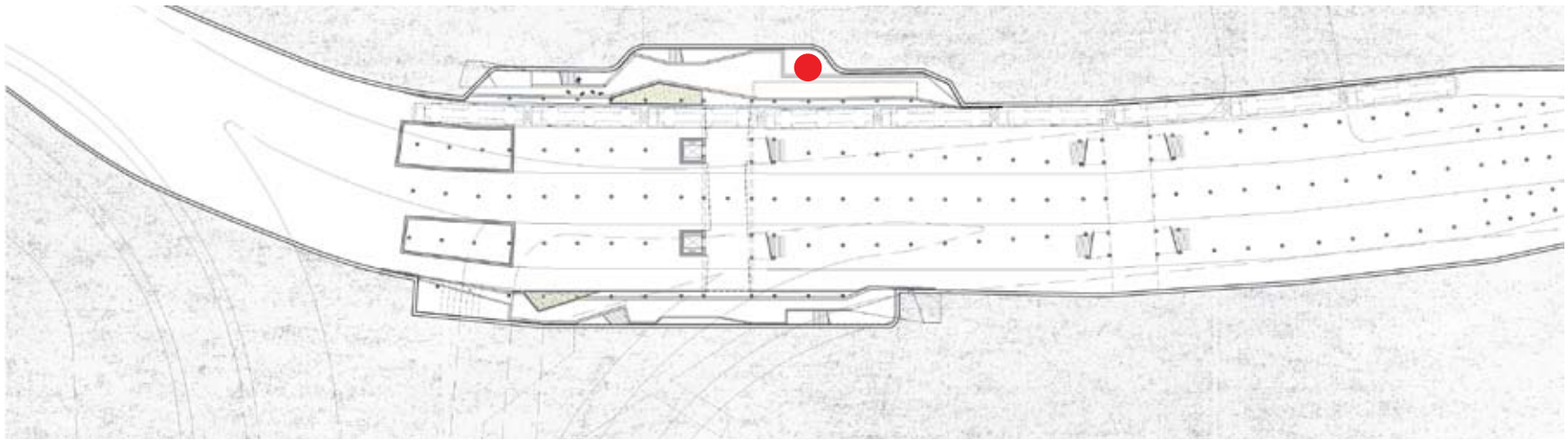
BROOKLYN BRIDGE



After the meeting, she returns to the library and this time uses the direct entrance. As she enters, she sees a sunken garden in front of her.

11:13am

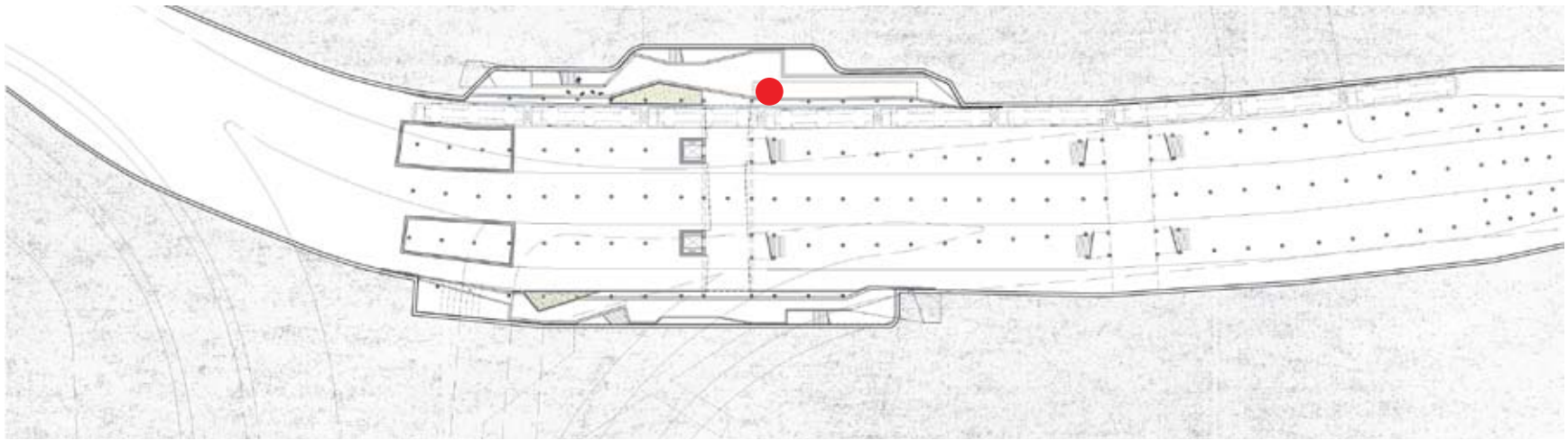




Wandering through the library, she discovers the projection room. She browses a kiosk with the digital image collection, and decides to look at a historic subway map collection.



11:37am



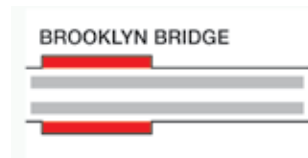
BROOKLYN BRIDGE



After spending an hour or so in the projection room, she decides it's time to head home for lunch. On the way out she picks up a book, looking first to see what color corresponds to biographies.

12:42pm

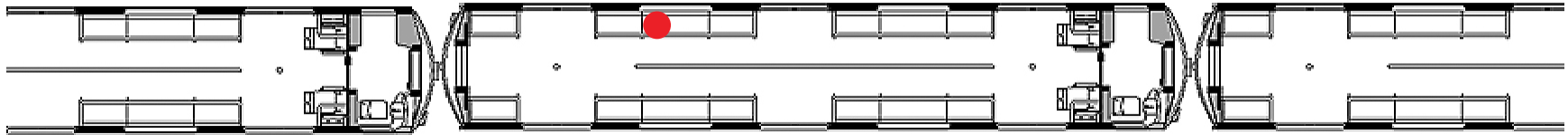




She exits the library via the stairs to the subway, walks across the mezzanine and down onto the active platform to catch the 6 train home.



12:44pm



On her way home, she starts reading her new book on Ben Franklin but doesn't like it. So, she returns it to the shelf in the car and picks up another one.

12:52pm





A
N
C
R
6
1
L

....A Day in the Life



Writer



Web Designer



Gallery Assistant



Tourist



Retiree

BROOKLYN BRIDGE



CANAL STREET



COLUMBUS CIRCLE





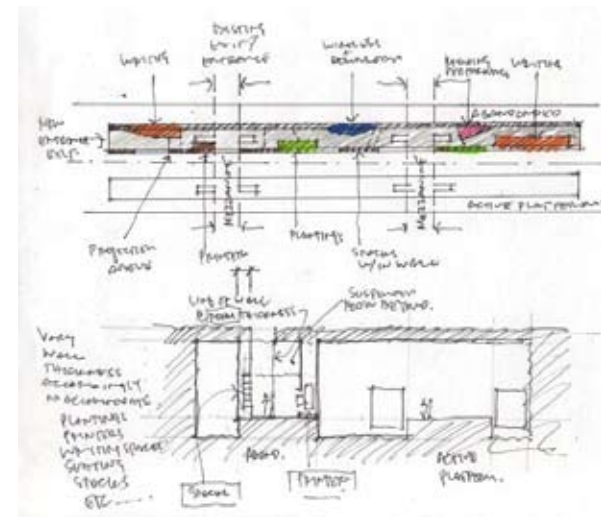
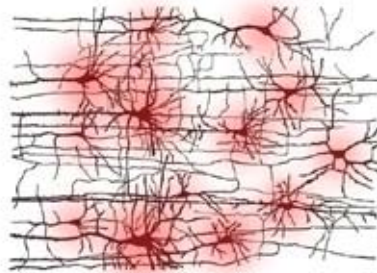
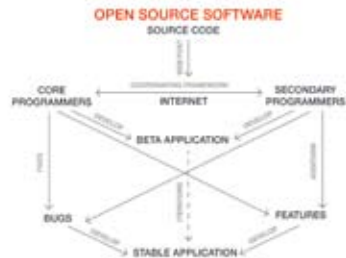
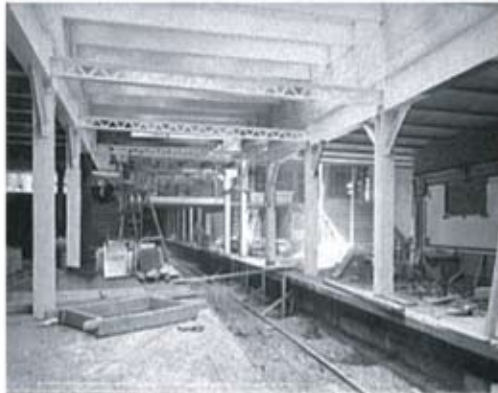
Review

Thesis Presentation and Review
19 December 2005

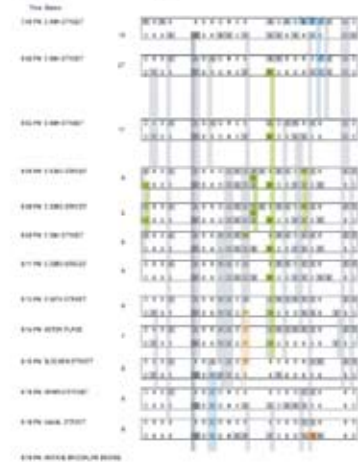
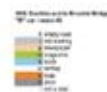
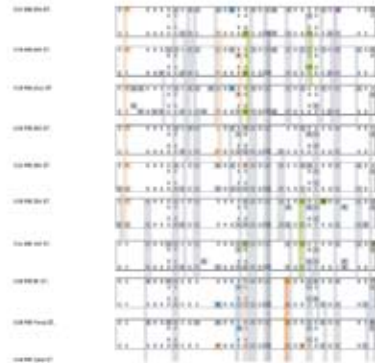


THE SUBWAY LIBRARIES

SITES: ABANDONED SUBWAY PLATFORMS IN OPERATING STATIONS



READING STUDIES



FOLLOWINGS: 3 OCTOBER 2005



WEST 66TH STREET (2)
GRANDCONCOURSE (4)

BROOKLYN BRIDGE (4)
GRAND CENTRAL (5)
TIMES SQUARE (5)
GRAND CENTRAL (4)

GRANDCONCOURSE (4)
89TH / LEX (6)
QUEENS PLAZA (7)

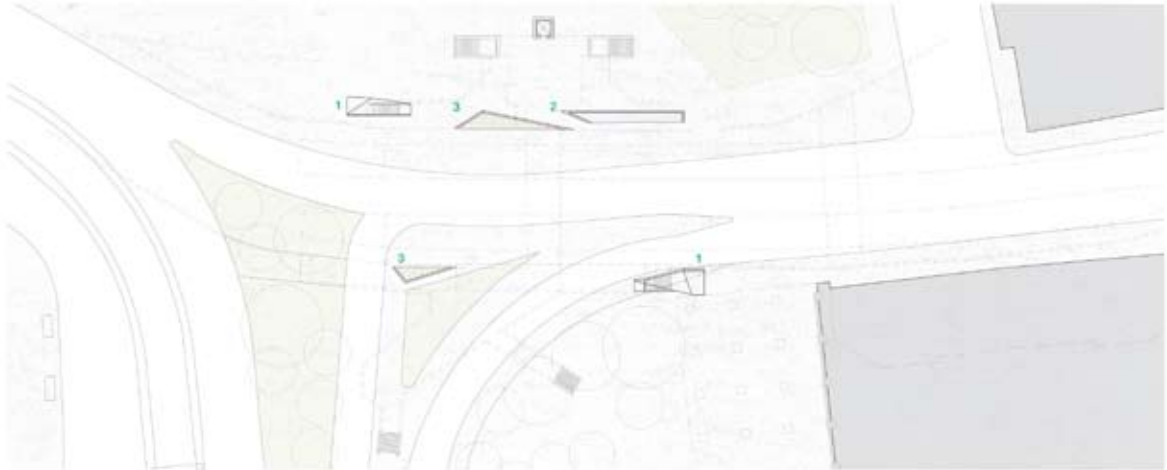
COLUMBUS CIRCLE (8)
NEWARK AVE (8)
AVENUE H (2)

AVENUE H (2)
57TH ST / 7TH AVE (2)
RECTOR STREET (6)

BROOKLYN BRIDGE

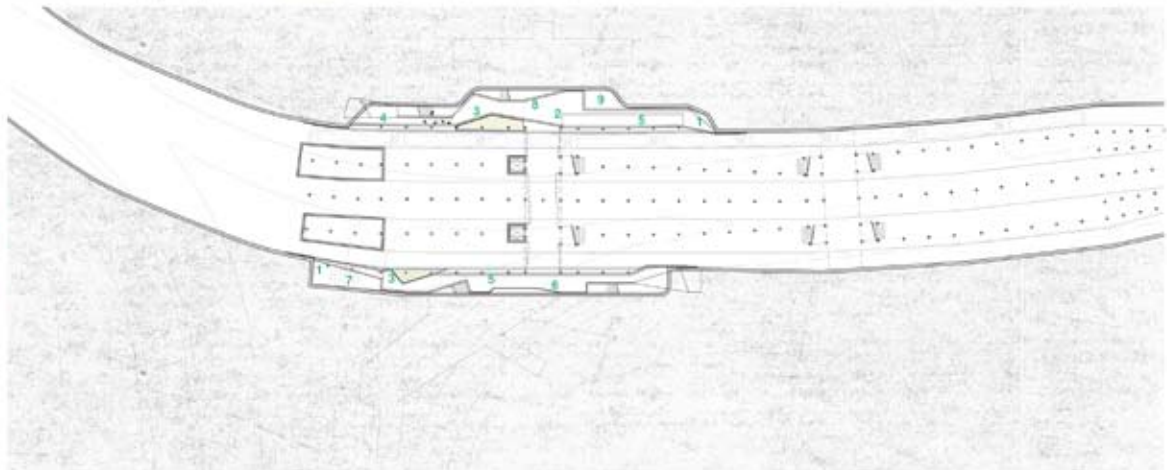
SURFACE LEVEL FLOOR PLAN

- 1 ENTRANCE
- 2 SKYLIGHT
- 3 GARDEN



PLATFORM LEVEL FLOOR PLAN

- 1 DIRECT ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON-DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTION



BROOKLYN BRIDGE

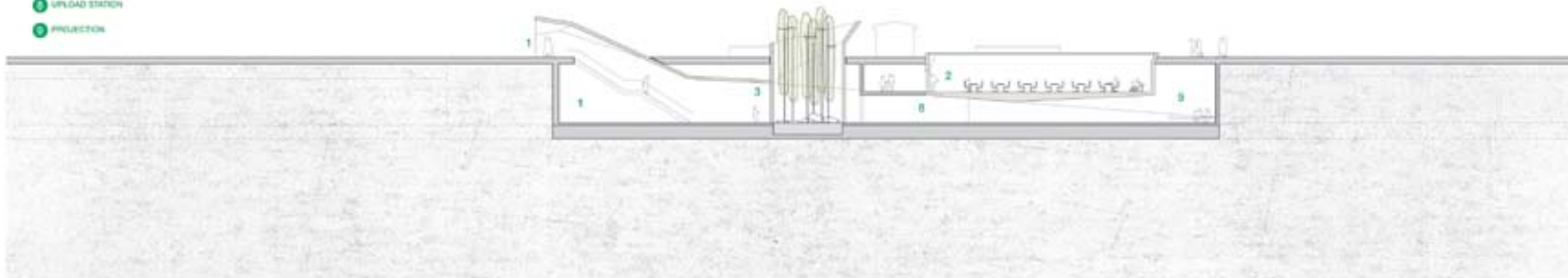


VIEW OF LIBRARY ENTRANCE



VIEW OF PROJECTION ROOM, WRITING SPACE, AND BOOK WALL

- 1 DIRECT ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTION

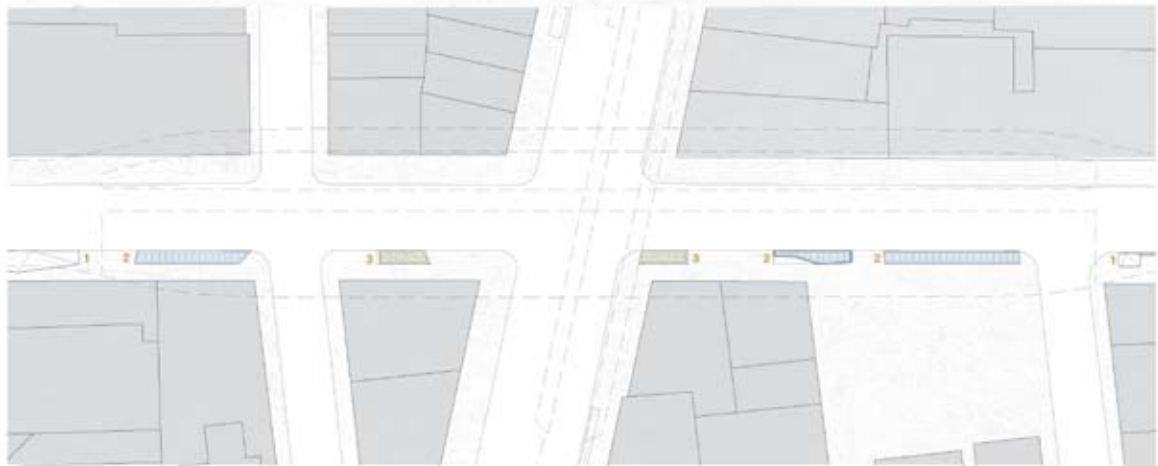


CANAL STREET



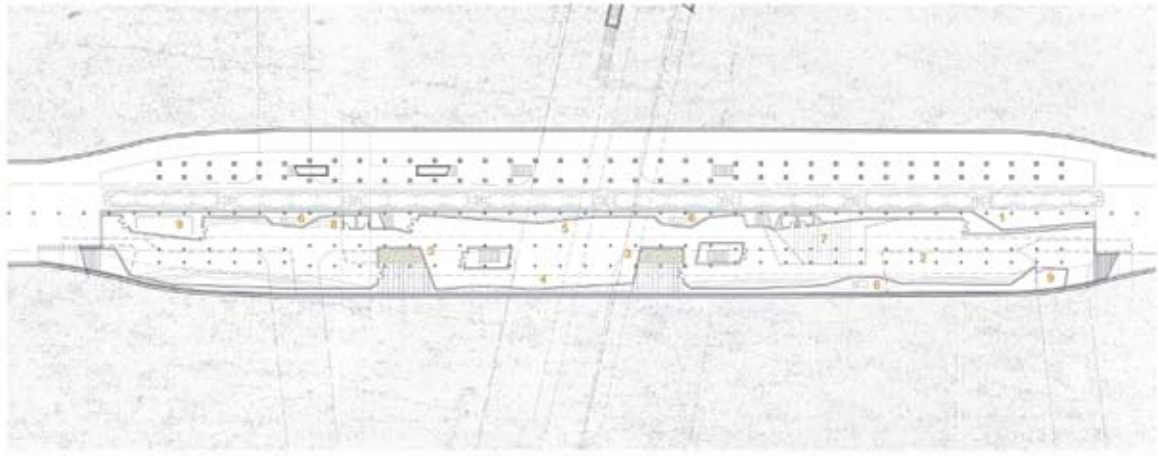
SURFACE LEVEL FLOOR PLAN

- 1 ENTRANCE
- 2 SKYLIGHT
- 3 GARDEN



PLATFORM LEVEL FLOOR PLAN

- 1 DIRECT ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON-DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTION



CANAL STREET



VIEW OF GARDEN AND PRINT-ON-DEMAND CONSOLE

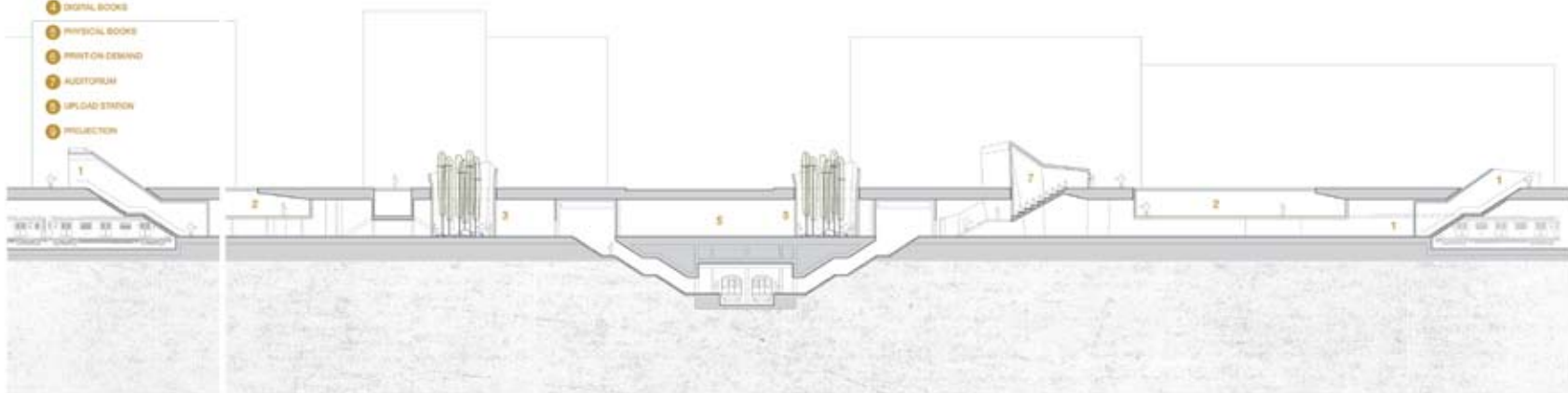


VIEW OF STREETScape FROM SIDEWALK



SUBWAY CAR PICK-UP / RETURN DEVICE

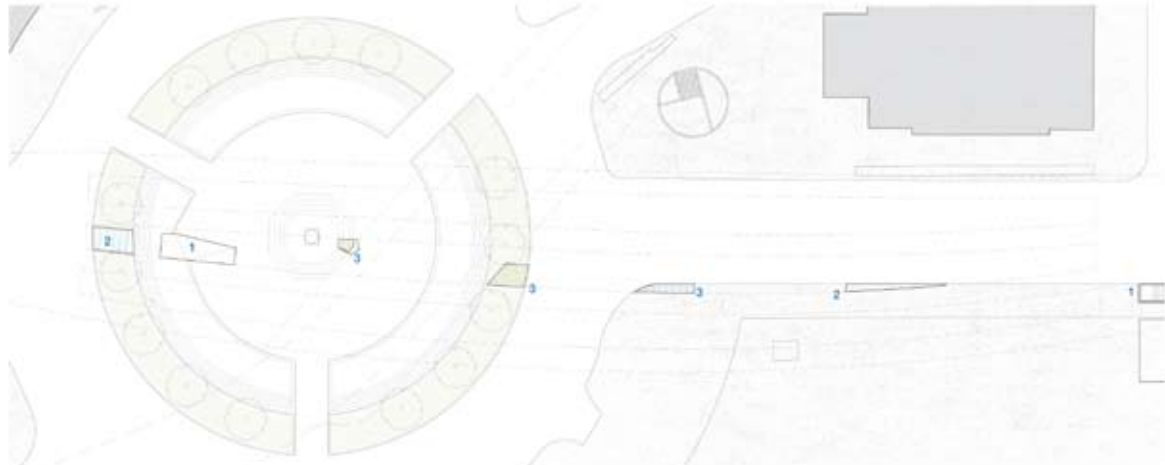
- 1 WALKWAY ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON-DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTOR



COLUMBUS CIRCLE

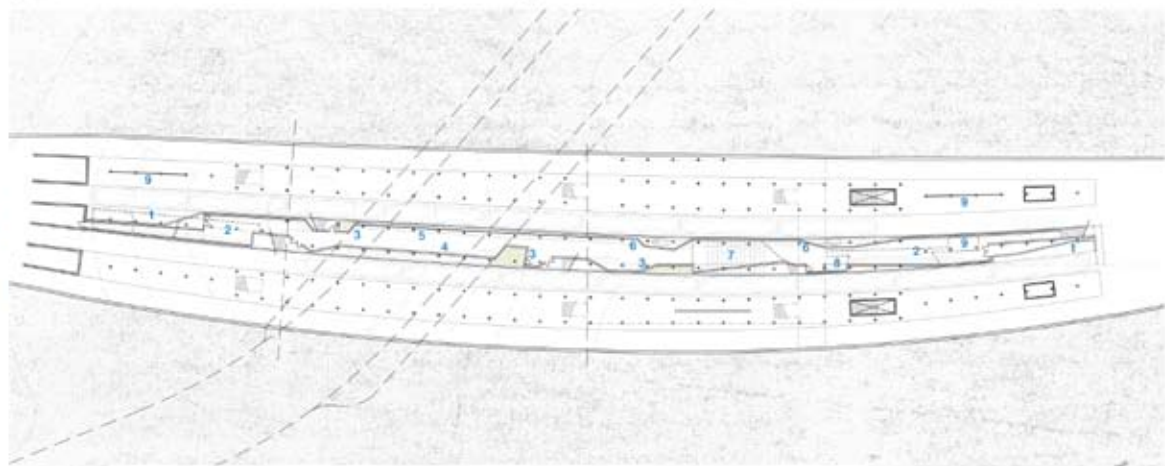
SURFACE LEVEL FLOOR PLAN

- 1 ENTRANCE
- 2 SKYLIGHT
- 3 GARDEN



PLATFORM LEVEL FLOOR PLAN

- 1 DIRECT ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON-DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTION



COLUMBUS CIRCLE



AERIAL VIEW OF STREETScape

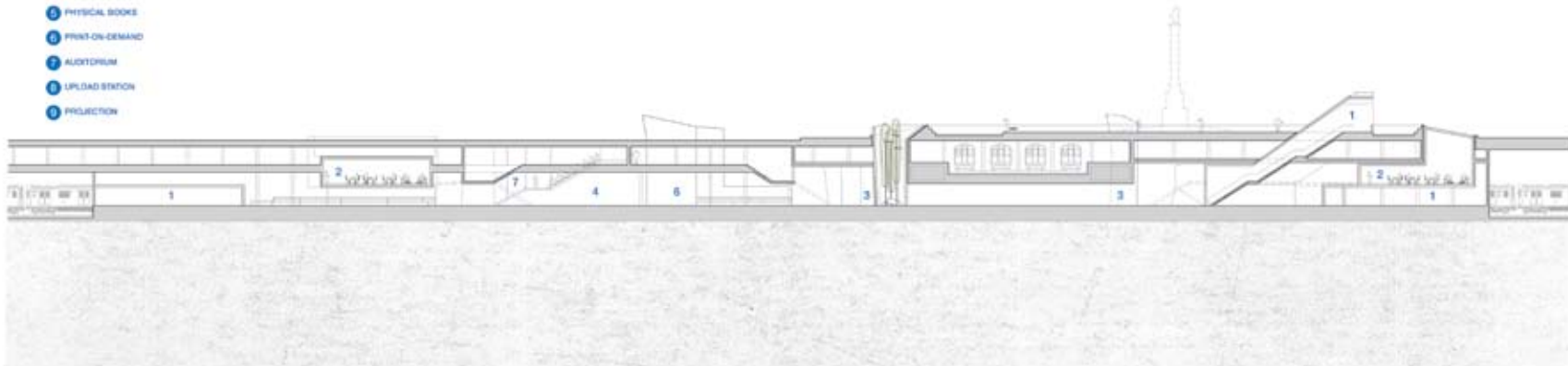


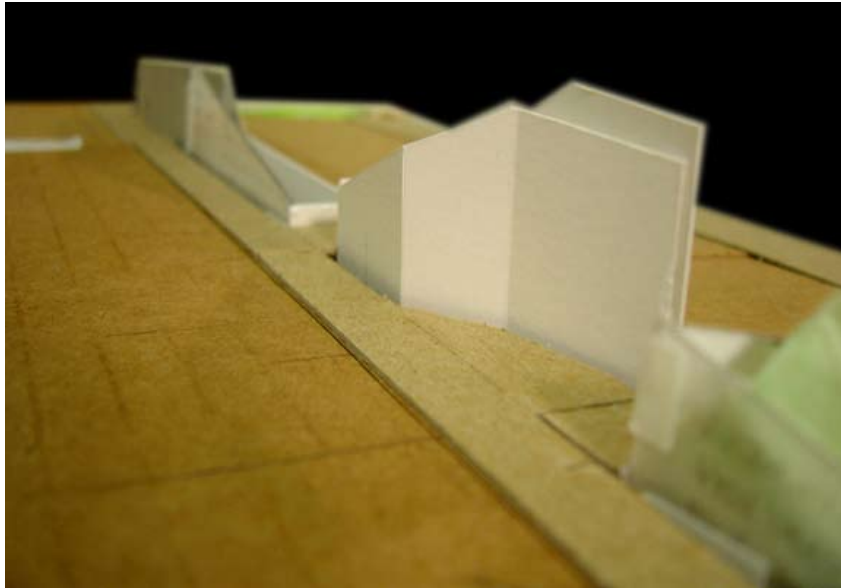
VIEW OF LIBRARY FROM PLATFORM



VIEW OF AUDITORIUM AND PLATFORM FROM INSIDE LIBRARY

- 1 DIRECT ACCESS
- 2 WRITING SPACE
- 3 GARDEN
- 4 DIGITAL BOOKS
- 5 PHYSICAL BOOKS
- 6 PRINT-ON-DEMAND
- 7 AUDITORIUM
- 8 UPLOAD STATION
- 9 PROJECTION





Response

Thesis Reviewers:

Kenneth Frampton (KF)
Mario Gandelsonas (MG)
Adele Santos (AS)
Nader Tehrani (NT)
Fernando Domeyko (FD)
Rafael Vinoly (RV)
Krzysztof Wodiczko (KW),

Thesis Committee:

Meejin Yoon – Advisor (MY)
Mark Jarzombek – Reader (MJ)
John Ochsendorf – Reader (JO)

The comments on the design addressed 3 principal areas: the larger implications of and applications for the project, the role of program, and questions of tectonics. These provided a thought-provoking discussion and also a number of extensions for future work on and thinking about the project. The commentary is summarized below and attributed in parentheses. The author has made every reasonable effort to ensure that these accurately portray the comments made either literally when in quotations or in spirit when paraphrased.

The larger implications of and applications for the project:

1. “The project has a range of impact going beyond just the insertion of the library. How are these other programs defined? What is the way it becomes part of the act of traveling in general? Is the library a mistake as a program? Is it too tight to the program and only these sites – why not do it elsewhere? Why not extend it beyond the program of the library – redesign the whole space of the tube since the whole thing could be seen as a critique of the subway?” (RV)
 - Author’s note: This is very much the intention of the project – to instigate the physical and intellectual renovation of both subway and library though it was not explicitly stated as such as this was left to be inferred by the audience.

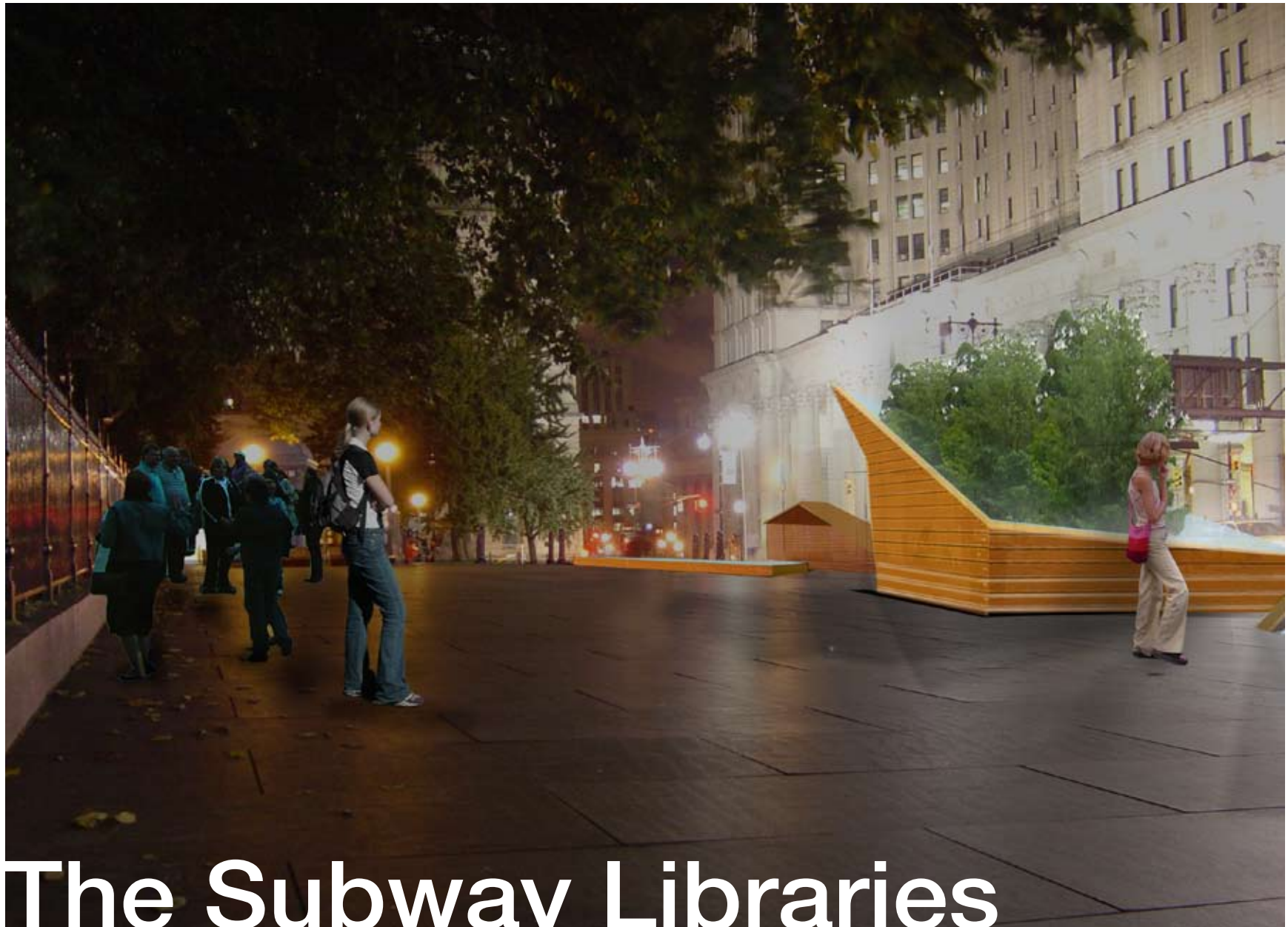
2. “There are other unused underground space that are not abandoned platforms – wide galleries originally conceived for a huge labor force that doesn’t go down them anymore. These are a missed opportunity because there’s ample space to work at the seams of these spaces and already the precedent underground with sale of music and other items.” To do this, “think of system of a whole and construct a narrative to connect them” so that sometimes all you do is let light in. (KF)
3. The project seems to set an “effective precedent as ‘seed projects’ that generate a whole series of spin-offs like cafés” and the like which are “imaginable through the both the modesty of the proposals and the joy” such as through bringing light and plantings down. (AS)
4. The project could “develop a repertoire of smaller possible interventions (may or not be programmatically driven – they can be spatially driven, for example). Wouldn’t we all be better off with a slot of light in the subway connecting you to the sky along with some light, some books, and some coffee etc?” (RV)
5. The project has a good mix of “modesty in form and arrogance of idea.” Its strength is that it is completely possible. (KF and RV)
6. How does this relate to housing of the homeless? (RV) Since decisions about covering and uncovering are really political acts what is the political meaning? Does the project ‘gentrify’ the subway in some way? (MG)
7. “How does the project address what it means to read underground? What is ‘underground reading’? To what degree is the subway already a library – a reading place, a public library? What should connect the underground to the surface?” Is reading underground a form of capitulation, particularly in light of contemporary politics? (KW)
8. “The penetration of the street is what makes it significant. It rethinks the relationship of the subway to above-grade and of vertical vs. horizontal. It has more implications in the formal and programmatic life of the city and dealing with bridging these conditions helps to deal with all the [negative] associations of the underground....” (RV)
9. Should the libraries be different in terms of language from station to station to create identity to help orient people given the subway context? (FD)

The Role of Program

1. “The idea of this specific programmatic coupling of subway and library is really the strength of project... It supports the idea of the chance or causal encounter and has precedent in other couplings like car/radio.” (MG)
2. “How does the siting support mixing of people and help desegregate public space? Could this have been better supported by different sites? The project provides unique opportunity to bring everyone into it. To whom are we opening up the library – and with what programs: For example, could music and the Netflix be included to open it up further and to more people, to create an expanded field of reading, listening, watching etc..?” (MG)
 - a. Author’s note: Though printed matter was both the focus of the design and the presentation, based principally on paper still remaining the most ‘democratic’ of the current technologies of reading, the Subway Libraries, as presented, do contain projection rooms for small screenings, auditoria for readings and lectures, and provisions for downloading both ebooks and audiobooks.
3. Is the idea viable without any function? (RV)
4. “As a poetic project, it is something in between an architecture project and a public art project, and it should be protected from being forced into one of these categories.” (KW)

Questions of Tectonics:

1. The project has a “kind of otherworldly surface presence of greenish glass but is clad in a kind of Scandinavian wood skin.” Is the idea that the wood is the ‘answer’ to the glass? (MJ)
2. The project is “dangerous for romanticizing the library programmatic and reinforcing that romance with the preciousness of wood which runs counter to the kind of toughness and dealing with safety, graffiti, etc ... that we usually associate with public space. It is easy to do it as a precious sauna – it needs to be tougher. The project can’t be both programmatic and materially sentimental.” (NT)
3. “I like and admire the physicality of it.” (RV)
4. The architecture “could be more kinetic and luminous and respond to movement of people, trains, and so forth The kinetic text is not enough and the wood is not aggressive enough – it’s a bit too precious.” The spatial system should be allowed to impact this. (KF)



The Subway Libraries



2006



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Page 72: Aerial view of Brooklyn Bridge / City Hall area from Google Earth. Image © 2006 State of New Jersey. Google Earth build 3.0.0616, dated Sept 16 2005

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Page 86: image of writers’ cubicles from *New York Times* Article: “A Cubicle for You and Your Muse.” October 9, 2005. SECTION: Section 9; Column 1. <http://www.nytimes.com/2005/10/09/fashion/sundaystyles/09writers.html>

Page 88: plan of typical subway station from 1904 IRT (Interborough Rapid Transit Association) Publication *The New York Subway: Its Construction And Equipment*. Public Domain.

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