

## THE LIBRARY (AS THIRD SPACE)

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|----------|--------------------------|
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**Synopsis:** *Since their inception, libraries have evolved through, or despite, cycles of destruction and reinvention. Through the vehicle of an urban building type in flux, Core II explores architecture's engagement with its content and context(s), at the micro and macro scales:*

- *What architectural form and identity should a 21<sup>st</sup> C. library take? Acknowledging transformations in the book and information access, how should the library's physical manifestation relate to its increasingly virtual / placeless territories as well as local urban contexts?*
- *What should the future library offer and in what kind of environment? Considering changes in modes of study, work and research, and absent the pressure to expand book collections, what spatial, navigational and programmatic opportunities arise?*
- *Who is the future library for and how can your architecture shape their interactions and networks?*

### Introduction

"The information age started chipping away at the modern library's walls almost from the start."<sup>1</sup>

In our age of constant and omnipresent digital information, the library as a cultural institution is again undergoing a rapidly unfolding identity crisis. Is the book dead? Does anyone even need to go to the library anymore? Each introduction of new media or technology, from the radio to the Internet to e-books, sparks a re-examination of these questions. Our information rich era is not the first to witness the decline of the library – the cycle of destruction and renewal having been long ago established.<sup>2</sup> Still, the victor in the slow, simmering battle between stack space and computer space is plain to see, as row upon row of desktop workstations multiplies in branch libraries across the country. Just downtown, activists for and against books in libraries are engaged in an ongoing dispute. Propelled by public outrage, the New York Public Library scrapped their controversial initial plans to relocate the research stacks in order to liberate public space (or as their opponents interpreted, more space for personal laptops that would render a civic institution into another Starbucks). The new scheme keeps the stacks in place for now, but the critical questions for this studio still linger: what should the architectural manifestation of a 21<sup>st</sup> Century library be, what should it offer and to whom?

### ***Knowledge Formats and Their Impact on Library Design***

Libraries are essentially physical connotations of an intellectual conceptualization of knowledge.<sup>3</sup> The English word “library” ambiguously refers to both the collection of books as well as the structure that houses them – the container and the contained. Both meanings are inextricably intertwined: we will therefore interrogate how the form of the book, the furnishings and fittings developed to house those books and how control / access to knowledge (and therefore power) have shaped library architecture. Every aspect of library design – its organization, structural systems, construction methods and materials, size / volume / span of its spaces, natural and artificial light systems, type, siting, and mode of circulation – has historically been shaped by shifts in how knowledge has been formatted and disseminated. The first half of this syllabus correspondingly traces the evolution of the container as the nature of its contents evolved. And even though today’s libraries embody a very different role than their predecessors, some design aspects can still be traced back to their earlier ideals. In perhaps the most vivid and timeless connotation of a library’s intellectual mission, the Alexandria Library’s core agenda included the acquisition, by copying or stealing, of every book ever written in the Hellenic world – the library as the world. Its aspirations for universal knowledge reverberate still in the invention of the worldwide web, even if pixels and bits have replaced paper and papyrus.<sup>4</sup> And even though an abundance of information now fits in the palm of your hand, library visitorship, programming and circulation has never been greater. Situating your library within this cycle of growth and change, what are the generative relationships between its physical structure and its content?

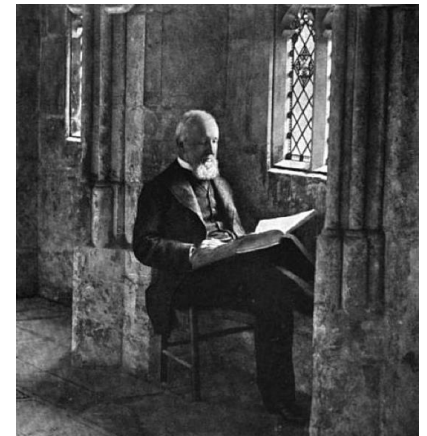
### ***Power Shifts: Parchment, Papyrus, Paper***

The first recorded writing system, cuneiform, dates back 5,500 years ago to Mesopotamia and was primarily for the purposes of recording financial transactions. These archives constituted the first libraries, but access was restricted to the elite literate few. When the Ancient Greeks adopted the far simpler Phoenician alphabet written on papyrus, they significantly increased the volume of books, literacy and the importance of the scholar class. In fact, the Alexandria Library functioned as a modern day ‘think tank’ for intellectuals, providing lodging for its members and platforms for research, public talks and civic debate, laying the foundations for the public libraries to come.<sup>5</sup>

In the Middle Ages, parchment replaced papyrus, which disintegrated over time, as the choice writing material. Made from animal hide, parchment was extremely expensive and therefore cut to minimize waste, resulting in large and heavy folio sized books that lay flat in secured book chests. In monastery libraries in the West and temples in the East, religious texts were stored flat in chests and armarias that opened to create mini-rooms within rooms. The solitary activity of reading occurred in an adjacent, separate cloister, characteristically carved with niches illuminated by individual windows. From the book carrels in the Gloucester Cathedral (1400) to Kahn’s Exeter Library (1967), the notion of reading as a rarified experience, rendered spatial via a structural or façade logic that produces illuminated niches, endures. Beyond reasons of control and security, separating the storehouse (above) from the reading space (below) was dictated by the need to protect texts from dampness and insects. Thus, as seen in the oldest surviving library at Tianyi in Ningbo (1561), reading rooms of this era often opened directly



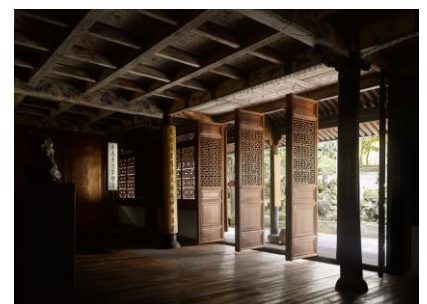
*Load bearing stacks under the NYPL*



*Gloucester Library study carrel*



*Kahn, Exeter Library study carrels*



*Tianyi Library*

to the garden. Labrouste's Bibliothèque Nationale (1867), Perrault's Bibliothèque Nationale (1996) and Ito's Tama Art University Library (2001) all physically express this deep-rooted metaphor of library as garden.

As early as AD 121, the Chinese eunuch Cai Lun is credited with inventing paper. Paper eventually found its way West via the Silk Road, but it was not used for books there until the 14<sup>th</sup> Century. By then, the nature of books and reading had changed. It became "important to bring lots of books in one place... to translate all those private acts of reading into public performances".<sup>6</sup> During the Renaissance, wealthy individuals and ruling families maneuvered for power and influence, their status conferred by their growing collection of books made possible by the diminishing costs of printing on paper.<sup>7</sup> Designed to shift the locus of influence away from the Church and towards the Medici's, Michelangelo's Laurentian Library in Florence was revolutionary for breaking from the de facto vaulted ceiling of the era in favor of a flat ceiling. By the 17<sup>th</sup> Century, Renaissance library furnishings such as carrels, lecterns (for horizontal folio storing) and book stalls (a hybrid between carrels and shelving) could no longer cope with the rapid proliferation of books. Library furnishings began their migration, from occupying rooms as stand alone objects to lining walls of rooms as an integral part of its structure.

### ***Library Rooms: Between Structure, Light and Shelving***

With imperial families increasingly amassing (and sometimes censoring) books as a means to control knowledge and the cost and size of books shrinking, the 1600's ushered in the beginning of modern library architecture. Books doubled as display, witness to their owner's enlightened stature. For the first time, the collection at the Escorial Library (1585) lined an entire room, stacked vertically on shelving rather than horizontally on lecterns. Seemingly integrated into the walls and their ornamentation, the leather splines and their lettering were now coordinated along with the architecture. At Arts End and Bodleian Library (1612), the entire armature for storing, reading and working – with bench backs integrated into the gallery supports and desks extending from the shelving – is completely intertwined. Within this spirit of integration, library designs of this era reflected the competing priorities of structure, light and shelving. Masonry vaulted ceilings were preferred for superior fire protection, but resulted in smaller and deeper windows whose height was capped by the springing point of the vault. Flat ceilings proved less expensive to build and allowed tall windows to be placed high above a continuous perimeter liner of shelving. In the central void vacated by the books, libraries would display globes and astronomical instruments, seamlessly merging museum functions into that of libraries.<sup>8</sup> (Three hundred years later, Bunshaft would merge exhibition and library space by displaying the books as the central focus inside an environmentally sealed glass box at the Beinecke Library). Metaphors of 'library as treasure house' or 'cabinet of wonders' epitomized the modern project of self-enlightenment. By the end of the 18<sup>th</sup> Century however, the dream of the single book room containing all universal knowledge became impossible. The sheer volume of swelling collections would mark the end of the singular library room and the beginning of library building.<sup>9</sup>



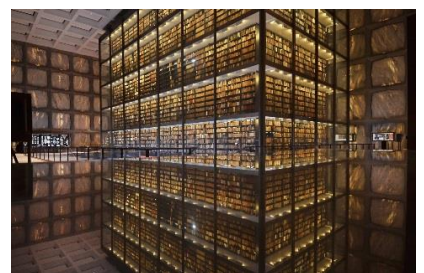
*Ito, Tama Art Library*



*Michelangelo, Laurentian Library*



*Escorial Library*

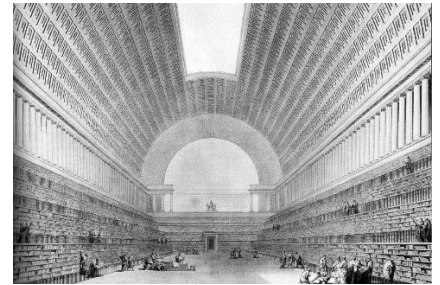


*Bunshaft, Beinecke Library*



### ***Library Building: Stacking and Cataloging (Of Even More Books)***

By siting the library at the center of the University of Virginia Library's Lawn in 1822, Thomas Jefferson broadcast the weakened standing of the church and monarchy and the rise of new political structures and custodians of knowledge. This increased importance of secular institutions, along with the introduction of gaslights, structural cast-iron and advances in printing mechanization, radically transformed the size, capacity, staffing, furnishing, organization and construction of libraries. Boullée's vision for France's National Library (1785) perfectly encapsulated the conundrum of housing an ever-proliferating abundance of books. His main reading room's monumental barrel vaulted hall with tiered galleries was designed to house ten million books and invite the general public to randomly browse its stacks. Though never realized, Boullée's library represented his era's aspirations for the role of the secular state in providing access to universal knowledge. Its utopian reading room with receding stepped book galleries – an environment enveloped by knowledge and uninterrupted by distracting views to the outside world – set the archetypal standard for more than two hundred years, inspiring similarly organized rectilinear and round reading rooms, as seen in Labrouste's Bibliothèque Sainte-Geneviève (1850), the British Museum Library (1857), The Library of Congress (1897), Aalto's Vyborg Library (1927), Asplund's Stockholm City Library (1928) and Yi Architects' Stuttgart City Library (2011).

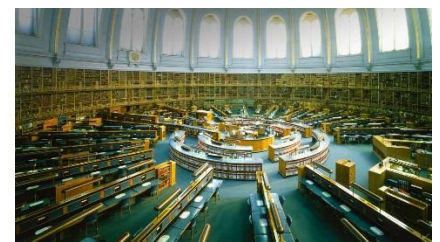


*Boullée, National Library of France*

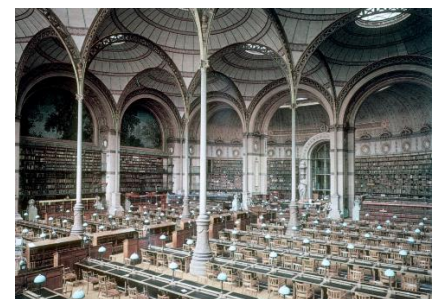


*Labrouste, Sainte-Geneviève Library*

Whereas the 18<sup>th</sup> Century library foreground books as dazzling display and symbols of veneration, many 19<sup>th</sup> Century libraries conveyed a more proletarian sociopolitical agenda of assimilating and improving literacy for an uneducated urban immigrant class. As printing costs continued to decrease, book collections swelled from the tens of thousands to the hundreds of thousands. To the leaders of the public library movement in the 1800's, the library was seen as an engine or factory for the efficient administration of books, staff and readers.<sup>10</sup> The 'library as factory' focused on the pursuit of trades and practical knowledge rather than frivolous literature.<sup>11</sup> And for the first time, the professional librarian emerged as a critical voice in library design. In fact, the British Museum's round reading room, with reading desks radiating outward from the central librarian's station, was first sketched by its head librarian Antonio Panizzi. While this configuration facilitated surveillance of readers by the librarian, Panizzi paradoxically empowered the reader by revolutionizing the library's cataloguing system. Instead of relying on the librarian to consult a poorly updated alphabetical inventory, readers could now locate a book directly by referencing its pressmark (a location coordinate). Panizzi wanted to make the library transparent to reader: no longer a mere list, his catalog was a tool for interconnected discovery, potentially a means to transform society into a true democracy – for the poor as well as the rich.<sup>12</sup> And from the vantage point of our wired world, Panizzi's catalog looks like the beginnings of the Internet.<sup>13</sup> The retrieval of books by the public thus became a spectacle, as evident by the structural load bearing cast-iron shelving located directly adjacent to and visible from the reading rooms at both the British Museum Library and at Labrouste's Bibliothèque Nationale.



*British Museum Library*

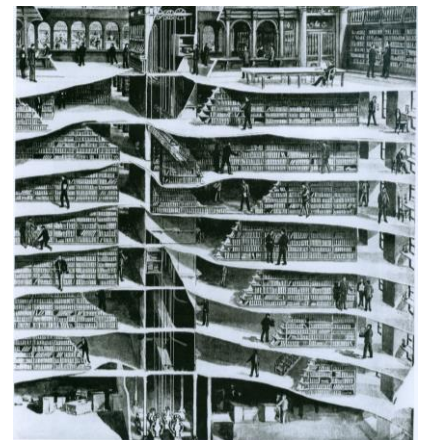


*Labrouste, National Library of France*

### ***The Battle Between Books and Public Space***

By the 20<sup>th</sup> Century, the breakneck proliferation of books combined with record levels of literacy and library visitorship presented a quandary at space squeezed libraries everywhere. What should take precedence: book space or public space? Much of library designs in the latter half of the 1900's can be understood as a questioning of the rigid delineation of shelving vs. public functions in search of an appropriate expression of the role of libraries in society. Aalto's libraries continued the tradition of the book ensconced, centrally located reading room, with no connection to the outside and daylight penetrating from clerestory windows, albeit with contemporary forms and an emphasis on diverse communal interactions. Scharoun's Berlin State Library free plan unfolds slowly, with smaller reading areas hovering above an urban foyer-like main room. Counteracting the insular nature of the traditional reading room, Herzog and de Meuron's library in Cottbus locates its reading spaces in peripheral atriums, while MVRDV's Book Mountain wraps informal reading spaces around a central mound of stacks and amenities. In a similar spirit, Snohetta's Alexandria Library boasts a spectacular terraced reading room (the world's largest at 200,000sf) with varying connections to facilities underneath at each terrace level, all under a luminous stepped atrium. Projects such as Ito's Tama Art Library resist the rigid specificity of function driven 'rooms' in favor of 'cells' differentiated by furniture, in order to maintain the overall spatial continuity and freedom to wander.

Meanwhile, in large main branches of major urban libraries, the overwhelming expansion of collections forced the stacks underground, accessible only by staff via technology and machinery.<sup>14</sup> Tellingly, the New York Public Library's (Schwarzman Building, 1911) revolutionary layout was devised by its librarian John Billings. His scheme buried eight stories of steel stacks, providing eighty-eight miles of shelving, below the monumental reading room. Books arrived to be catalogued at the lowest level and then delivered directly to the blissfully unaware reader via lifts and shafts. Developed by the Snead Bookshelf Company, the multi-floor stack system at NYPL (and at Harvard, Columbia and the Vatican) literally provides structural support for the building. To remove the books would literally invite collapse.<sup>15</sup> A hundred years later, Alberto Kalach would invert this relationship by hanging steel shelves from the roof over the main hall at the Vasconcelos Library (2007). Kalach aims for neutral ground in the battle between books and public space, by liberating the ground floor entirely for community use and floating the library's immense collection above. Finally, at Snohetta's Hunt Library (2013), a robotic book retrieval system can retrieve a book from below (ordered from a computer or mobile device) in two to five minutes, to the delight of the public gathered at the library's entry to witness the spectacle. The books are otherwise not visible. That same year, books disappeared entirely from the first bookless library, in San Antonio, Texas. "A library without books was once unthinkable. Now it seems almost inevitable."<sup>16</sup> But is it?



*NYPL Stacks*



*Scharoun, State Library, Berlin*



*MVRDV, Book Mountain*



*Kalach, Vascancuelos Library*



*Snohetta, Alexandria Library*



### ***Shifting Library Paradigms***

Since the 1990's, a technological revolution, enabled by relatively inexpensive personal computers and worldwide telecommunication systems, has made information superabundant. For the first time in human history, information is not a scarce commodity.<sup>17</sup> Books as the primary vehicle for information and the library as a central repository of said books now feel like obsolete ideals. We have seen historically how changes in knowledge formats have driven distinct paradigms for library design – *reader-centered* libraries structured around the intimate relationship between readers and books and *book-centered* libraries dominated by shelving and anticipated growth of large collections.<sup>18</sup> The microfiche, JSTOR and e-books have each incrementally decreased the physical space needed for books. Absent the pressure for continually expanding book space and therefore in urgent need of reinvention, these earlier models have been replaced by *work* and *learning-centered* paradigms. OMA's Seattle Public Library (1999) recognized the proliferation of information formats and the consequent need for a multiplicity of and interaction between diverse user spaces. Interspersed along the 'Book Spiral' are enclosed rooms and open spaces that allow for the myriad scales of working, gathering and learning to occur under one roof. Born out of the sobering fact that fewer than 20% of their residents even stepped foot into their libraries, Tower Hamlets in London undertook the radical decision to close all their libraries and replace them with Idea Stores (library + café + adult education classes + computer access) near high traffic commercial centers – the first two designed by Adjaye. How can we rethink the physical space of a library today? Should they be hyper-local portals of service to specific communities addressing their needs for knowledge and resources?<sup>19</sup>

***Library as Work Space*** The most visible sight upon entering the Brooklyn Public Library is not books, but the Info Commons. It provides not just collaborative spaces and workstations but access to free software and self-publishing and print-on-demand technologies. Fittingly, the BPL hosts an annual business plan competition for local entrepreneurs. The same year, the Scottsdale Public Library in partnership with Arizona State University launched Eureka Loft, an innovative co-working space that provides free access to library and business databases, mentorship and networking events with local business leaders. Parallel to the rise of freelancers, the mobile office and tech entrepreneurs, many reading rooms have naturally become co-working spaces, albeit substantially more diverse in age and race than their private counterparts.<sup>20</sup> The Digital Commons at D.C. Public Library includes a Dream Lab – rent-free tech workspace for individuals or small groups in return for teaching IT and digital literacy classes to the library's patrons. It's a compelling example of how one of the library's new identities still meshes with its core mission to democratize knowledge.



OMA, Seattle Public Library Model



Helen & Hard, Vennesla Library



Ito, Sendai Mediatheque

**Library as Learning Space** Launched by Nate Hill in 2012, the resounding success of Chattanooga Library's 4<sup>th</sup> Floor helped propel a wave of like-minded "public laboratory and educational facilities with a focus on information, design, technology and the applied arts". While the traditional mode of libraries offers access to knowledge, the 4<sup>th</sup> Floor and other similar facilities "support the production, connection and sharing of knowledge by offering access to tools and instruction". Its 12,000 sq. ft. space is organized as intersecting and overlapping "labs" or "studios" and functions as the library's "beta space", where initiatives are tested before library wide implementation. Civic Lab, Maker Lab, Art Lab, GigLab (the 4<sup>th</sup> Floor); Fab Lab, Studio Lab (in D.C.); and Game Lab (at Hunt Library) all attest to the notion that media consumption and creation lie on a gradient of knowledge production.<sup>21</sup> The public library becomes a place where we not only download culture, but upload it too.<sup>22</sup> In some ways, is the 21<sup>st</sup> C. library paradoxically revisiting the model of the Alexandria Library: an informal, collaborative community of scholars and students?



*Snohetta, Hunt Library, Teaching and Visualization lab*

### **Library as Infrastructure**

"Libraries are the only thing left on the high street that doesn't want either your soul or your wallet."<sup>23</sup>

Today the variety and quantity of services and amenities provided by public libraries is absolutely mindboggling. Children and teens share space with seniors, immigrants, the self-employed, unemployed, under-employed and homeless.<sup>24</sup> In 2013, The Center for Urban Future (CUF) published an influential report arguing for the now-more-than-ever essential role of NYC's public libraries and refuting the simplistic and intuitive conclusion that the digital era implies the death of the library. "Branches of Opportunity" is based on visits to fifty libraries across all five boroughs and reveals the dire physical and economic state of NYC's libraries, even in the face of their expanding needs, growing circulation and program attendance numbers.<sup>25</sup> Immigrants rely on libraries (deemed more trustworthy than government institutions) as de facto schools, to learn about government services, eligibility requirements and how to fill out their forms. Enrichment classes, after-school programs and partnerships with public schools (gaming, story time, music lessons) flood branch libraries with pre-K to teen-age kids all day long. Classes such as one entitled "Is This Thing On?" help seniors stay active and connected to our tech driven world. The CUF highlights the new realities of today's knowledge economy, where a wider range of literacy and technological skills is critical to economic survival and quality of life. No other institution does a better job of reaching people who have been left behind in today's economy, with classes for adult and computer literacy, GED and citizenship test preparation, resume writing, interviewing and career counseling, and even help with job placement.<sup>26</sup>



*Bpi (Public Information Library), Centre Pompidou*

Going one step further and adding yet another role for libraries, the New York Times' Michael Kimmelman suggested that libraries in the future could serve as our community emergency centers, equipped with back up generators and solar panels, in the case of environmental disasters. NYC libraries were packed in the days after Hurricane Sandy – overflowing with residents in need of power and wi-fi at the mid-Manhattan branch and with FEMA and Red Cross workers helping residents register for FEMA aid at branches in Staten Island.<sup>27</sup>

Within this context of the expanding mission of libraries, Shannon Mattern proposes to re-think the library as a network of integrated, mutually reinforcing, evolving infrastructures to better identify what roles we want our libraries to serve.<sup>28</sup> She cautions against reducing its function as a knowledge institution to merely technical services and information offerings. After all, we already have Silicon Valley monetizing knowledge solutions. In partnership with other institutions, libraries can determine how best to leverage the resources of their shared infrastructural – cultural, educational, social, technological – ecology. For example, the Queens Museum will soon incorporate a Queens Public Library branch while Lincoln Center houses the NYPL for the Performing Arts – both mutually beneficial pairings. Just last year, the NYPL announced a partnership with Coursera, one of the largest providers of free online education, through their Learning Hubs program. In a first of its kind partnership, the library will provide Coursera students physical space for weekly in-person class discussions in conjunction with several popular courses. So rather than presuming a substitution of one paradigm with another, or that bookless libraries are inevitable, might the future library result from “an intermingling of the analog and the digital, books and e-books, paper and pixels”?<sup>29</sup>

### ***Siting Libraries, Library Sites***

At the turn of the century, the Scottish-American Andrew Carnegie’s staggering endowment of \$350M financed the building of nearly 2,000 new public libraries across the U.S. in just twenty-eight years. As most major urban centers already had central libraries, Carnegie’s libraries were predominantly located in smaller towns or low-density urban areas. Their ideals reverberate still today – typically set in public parks away from ‘crass’ commercial centers, they evoked the image of inviting ‘temples of learning’. In New York, they formed the nucleus of the NYPL system, with 31 out of an original 39 still in operation. It is these remote bucolic locations however, that are most in disrepair for lack of need, foot traffic and attention. In conjunction with CUF, the Architectural League of NY recently launched a speculative design study, entitled “Re-envisioning Branch Libraries”. Five teams were selected to reimagine new partnerships and connections between libraries and their local communities, including extending library functions out onto its underutilized green areas and sidewalks.

Where does the library start and where does it end, in relation to its physical and virtual territories? Today, the library’s expanded territory as represented by innovative outreach programs has its roots in the early 1900’s home library. An early version of the book-mobile, they consisted of a modest set of twenty books and delivered to readers in the countryside in a horse-drawn, librarian driven buggy.<sup>30</sup> (The modern day version of the home library can be found in Colombia, where the Biblioburro delivers books to underserved villagers via two hard working donkeys.) In urban settings, a second type of home library was aimed in particular at children of immigrants in tenement housing. By securing the interest of young readers, librarians hoped to improve literacy and assimilation of an uneducated immigrant class. With the same spirit, the Brooklyn Public Library just announced that it is bringing its library to its users. BPL has partnered with Uni, a pop-up library that deploys to shelters throughout Brooklyn. Part of a larger exchange network, it allows shelter residents to tap into a vast collection of books, programs and training services. And although the BPL’s proposal to implement mini



*NYPL Central Distribution & Book Sorting Facility, L.I.C.*



*Outdoor Reading Room, Bryant Park, NYPL*



*Book-Mobile, NYPL*



storefront libraries – centrally located outposts near commercial or transportation hubs throughout the borough – suffered budget cuts, other likeminded experiments have already been implemented in Boston, Houston and Detroit.

Ongoing initiatives at a larger scale include the Library as Incubator Project, a website that posts about library programs nationwide that involve displaying, facilitating or disseminating art. And the forward while backward looking Digital Public Library of America, based at the Boston Public Library, is building a nationwide digital collection of historical materials sourced everywhere from libraries and private collections to family photo albums.<sup>31</sup> As one innovative way to connect the library's digital and physical sites, DPLA's goal is to work with local libraries to collect materials and allow patrons to explore their community's history on touch screens.<sup>32</sup>

### ***Libraries as Third Space, or the Spaces Between Us***

One critical question persists: who is the 21<sup>st</sup> Century library for? In parallel with the library design parameters already discussed, we can situate this question in the context of contemporary cultural studies and critical theories of space. The notion of the library as an essential “third place” or “third space” prevails in contemporary library science discourse. Coined by the sociologist Ray Oldenburg, ‘third place’ denotes the public and social realm that belongs neither to home (“first place”) nor work (“second place”). Oldenburg alerts us to our declining social capital, the increased privatization of public space and the urgent need for this neutral ground where public debate and interaction can occur freely and informally. James Elmborg references Homi Bhabha’s concept of “third space”, which acknowledges nuanced conditions of hybridity and diversity in cultural identity, as a conceptual platform upon which to build a contemporary library. Whereas traditional libraries represent an absolute space<sup>33</sup> designed to fulfill a single sociocultural function, “third space” is indeterminate, open to appropriation, playful and generative. The library as third space resists traditional librarian concepts and classification systems, which are often biased by Western philosophy and can too rigidly structure the use of library space. It can accommodate the multiple paradoxes embedded in the potential of the 21<sup>st</sup> C. library: the World Wide Web is a library but libraries continue to perform pivotal civic, educational and economic roles; information is readily at our fingertips, but we still need help navigating its past, present and future multiply versioned formats; we love solitary and mobile modes of study and work as much as we need places for collaboration, random interactions and discoveries.<sup>34</sup> What are the architectural opportunities to manifest these pluralistic modes of intellectual and physical production?

## **STUDIO PROJECT**

Any library of any size has a space crisis.<sup>35</sup> We can interpret the architectural ‘crisis’ that defined previous library paradigms as series of a balancing acts: between book space and public space; between physical structure, light and shelving; between modes of private retreat and public engagement. How should these adapt to the mission of the 21<sup>st</sup> C. library? What new structures and frameworks should express the pluralistic modes of work, learning, access, escape, research, contemplation, discovery, debate, eating, yelling and gaming that define the future library?

The semester is generally structured around these contexts, developed as macro-to-micro as well as micro-to-macro strategies:

- What architectural form and identity should a 21<sup>st</sup> C. library take? What physical framework, element or sets of experiences should structure the library? Acknowledging transformations in the book and information access, how should the library’s physical manifestation relate to its increasingly virtual / placeless territories as well as its local urban contexts?
- What should your future library offer and in what kind of environment? Considering changes in modes of study / work and absent the pressure to store books, what spatial, structural, navigational and programmatic opportunities arise? If books are no longer the primary vehicle for information, how can we radically rethink the armatures for knowledge – what design evolution should the study carrel, shelving, card catalog, reference desk or workstation undergo?
- Who is the future library for and how can your architecture shape their interactions? Libraries open unto infinite digital worlds as well as the immediate world right outside its doors, unto past and future productions. What are the architectural opportunities for expressing new collaborative networks and urban communities?

### **Site: DUMBO**

Our site is located at the intersection of Old Fulton, Furman and Everitt Streets in DUMBO, at the foot of the Brooklyn Bridge. It overlooks the site of the first steam-powered ferry service that linked Fulton Street in Brooklyn to Fulton Street in Manhattan during the 19<sup>th</sup> C. Transporting hundreds of passengers and cargo in under fifteen minutes, it helped to establish Brooklyn as one of the first ‘commuter suburbs’ and the waterfront as a vital production and manufacturing center (the country’s fourth largest at the time). However, the arrival of the Brooklyn and Williamsburg Bridges and the BMT and IRT subway lines catalyzed the closure of dozens of ferry lines and the shift of industrial waterfront activity to the Brooklyn Navy Yard. Warehouses that once stored the country’s coffee and sugar have been radically transformed into workspace, residential and retail development, which in turn enabled the most recent evolution of the waterfront into the Brooklyn Bridge Park. DUMBO now anchors the heart of the Brooklyn Tech Triangle, a region made up of Downtown Brooklyn, DUMBO and the Brooklyn Navy Yard that has emerged as a magnet for pioneering creative and tech entrepreneurs.

The panoramic views of Manhattan from our site provoke questions regarding site limits and the physical vs. virtual territories of a branch library. Whereas the BPL and NYPL (covering Manhattan, the Bronx and Staten Island) systems are separate (a reflection of Brooklyn as a formerly independent city), they share one central distribution hub in Queens. How does your branch library tap into the larger network? Our site can also be understood as an urban ‘void’ in terms of library coverage, as BPL has identified that DUMBO currently lacks a branch library. The nearest BPL branches (Brooklyn Heights and Walt Whitman) are over half a mile away. BPL is in fact considering testing the typology of a storefront library in the neighborhood in the near future. With neighborhood demographics including low-income families in public housing projects and the creative / tech class, could the library bridge illiteracy (digital, language) and inequality through programming and partnerships?



## PROGRAM BRIEF

| Area in SF    | Program                                     | Notes   |
|---------------|---|---|
| 1,500         | Lobby / Entry                               |   |
| 500           | Circulation Desk                            | <i>With workstations and shelving for Reserves</i>  |
| 1,000         | Café and Kitchen                            | <i>With direct access from Children's Library for after school events</i>   |
| 800           | Public Bathrooms                            | <i>Total area dispersed throughout building</i>   |
| 2,000         | Auditorium                                  | <i>To be accessed by outside groups and when library is closed.</i>   |
| 7,000         | Open reading / work areas                   | <i>With distinct zones and acoustic separation for children, adult and teen libraries</i><br><br><i>Include open stacks and librarian offices / active staff-patron interaction spaces within reading areas</i> |
| 4,000         | Workrooms / Labs                            | <i>Provide 3 to 4 of varying sizes, for Maker Spaces, digital production &amp; visualization</i>  |
| 2,000         | Community Rooms                             | <i>Provide 2 to 3 of varying sizes, for meetings, classrooms, computer labs and events, to be accessed by outside groups and when library is closed</i>   |
| 6,000         | Stacks & Collections                        | <i>Collections could include periodicals, A/V material and/or artifacts.</i>  |
| 1,000         | Librarian Offices                           |   |
| 400           | Staff Lounge                                | <i>With kitchenette and separate bathrooms</i>  |
| 1,000         | Storage / Sorting                           | <i>Adjacent to Loading / Delivery</i>   |
| 2,000         | Loading / Delivery                          | <i>Directly off of street</i>   |
| 4,000         | Mechanical, Structure, Vertical Circulation |   |
| <b>33,200</b> | <b>Total Area</b>                           |   |

**Site coverage:** A minimum of 30% and a maximum of 40% of your site must be designed and programmed outdoor space (fully exposed to the sky), as an extension of the library into the city.

## **SCHEDULE OF DESIGN EXERCISES & DELIVERABLES**

### **WEEK 1 & 2: PRECEDENT ANALYSIS (MACRO)**

Precedent analysis can be understood as a retroactive process of uncovering the operative principles of a building. In addition to illustrating your understanding of your precedents' design strategies, you are asked to draw conclusions about their interdependent relationships and hierarchies at multiple scales, both internal and external, at the scale of the building and site. With the beauty of hindsight, it's an exercise in assessing the architect's initial goals through the lens of their actual performance, experience or impact.

Each section instructor will decide whether this exercise will be done as individuals or in pairs. All analysis drawings are to be drawn by you, from scratch, so that you understand relative scale and dimensions. NO copy / pasting of found images or drawings. Every image that contributes to your analysis should be doctored by you somehow, to demonstrate your personal interpretation of the precedent.

#### **Readings:**

James Campbell, *The Library: A World History* (Chicago: University of Chicago Press, 2013), pp. 19-35.

Farshid Moussavi, *The Function of Style* (Harvard University Graduate School of Design, Actar and FunctionLab, 2014), pp. 294-351.

Jeffrey T. Schnapp, Warehouses of Thoughts and Things, *Harvard Design Magazine*, No. 38, Spring-Summer 2014, pp. 24-29.

#### **DELIVERABLES**

**Format** Format of the deliverables will be TBD by each instructor. Please keep in mind that all precedent analysis will be compiled into one 11x17 book as a class wide resource, for the Precedent Parade.

##### **Analytical & Concept Drawings @ 1/16":**

- Forms of organization (rooms vs. zones, program, scales of use, different types of media and their activities, acoustics).
- Circulation, access, workflow (of people and books / information)
- Siting, urban relationships, connection of indoors to outdoors, connection to community
- Frameworks for growth and change (of use, events, collections, media formats)
- Building morphology, as shaped by structure, light or library furnishings

Illustrate the interdependent relationships between the concepts above. This entails analyzing the various strategies independently as well as drawing conclusions regarding the extent to which they influence or are dependent from other design decisions.

##### **Drawings**

- Plans (Minimum Ground Floor + one other) @ 1/8"
- Sections (Long and Cross) @ 1/8"

##### **X-Ray Model**

One X-ray model @ 1/16" that emphasizes the primary system that structures the morphology or experience of your precedent. The secondary elements would be 'ghosted' or otherwise de-emphasized.



### WEEK 3: PRECEDENT ANALYSIS (MICRO): PROTO-BUILDING

In this second phase of precedent analysis, we will consider the micro relationships that define the morphology of seminal library buildings as a springboard for your own initial design concepts. Selecting a different precedent (or series of related precedents, TBD with each instructor), analyze and illustrate the interdependent relationships between structure, light, library furnishings, scales / types of use and circulation. As a critique, transformation or expansion of your precedent, spatialize a singular set of relationships and/or formal strategies through physical models at 1/8" scale, fitting roughly within an 8"x8"x8" volume – your proto-building. The proto-building should be conceived as an abstract volumetric region of a potentially infinitely size building – the spatial DNA of your library – articulating a potentially systemic strategy and developed from the inside out without the burden of site, yet. Choose one of the primary areas, such as the reading room(s) or community room(s).

#### Readings:

Borges, Jorge, "The Library of Babel". *Labyrinths*. New York: New Directions Publishing, 1964.

Jeffrey T. Schnapp, Matthew Battles, *The Library Beyond the Book* (Cambridge, Harvard University Press, 2014), pp. 14-53.

Michael Agresta, "What Will Become of the Library?", *Slate*, April 2014. Accessed 04 Nov 2015.

<[http://www.slate.com/articles/life/design/2014/04/the\\_future\\_of\\_the\\_library\\_how\\_they\\_ll\\_evolve\\_for\\_the\\_digital\\_age.html?wpsrc=sh\\_all\\_mob\\_em\\_ru](http://www.slate.com/articles/life/design/2014/04/the_future_of_the_library_how_they_ll_evolve_for_the_digital_age.html?wpsrc=sh_all_mob_em_ru)>

#### DELIVERABLES

**Format:** Format of the deliverables will be TBD by each instructor. Please keep in mind that all precedent analysis will be compiled into one 11x17 book as a class wide resource, for the Precedent Parade.

#### Concept Drawings

- 3d drawings that analyze your precedent(s) in relation to building morphology at the micro scale, as shaped by structure, light, circulation, activity and/or library furnishings.
- 3d drawings of the systemic set of spatial relationships or elements that make up your proto-building.
- Collage that illustrates an immersive experience in your proto-building.

#### Proto-Building Models

- 1/8" scale, within an 12"x12"x12" volume.

#### PRECEDENT PARADE (Pop-up Exhibit and Precedent Booklet)

After the joint Precedent Pin-up, all students should clear the shared middle table for a pop-up exhibit. In the interest of sharing the precedent research across the class, each student should exhibit their precedent X-ray models, Proto-Building models and precedent analysis drawings printed on 11x17 booklet format.

Each studio should assemble their precedent work (macro and micro) onto 11x17 horizontal format, to be compiled, printed and shared as a class wide resource.

## PRECEDENTS FOR MACRO AND MICRO PRECEDENT ANALYSIS (WEEK 1, 2 & 3)

Gloucester Cathedral, UK: 1400  
Michaelangelo, Laurentian Library: 1571  
Labrouste, Sainte Genevieve, Paris: 1850  
British Museum Reading Room: 1857  
Labrouste, Bibliotheque Nationale, Paris: 1867  
The Warburg Institute, late 1800's  
Carriere and Hastings, New York Public Library (Schwarzman Building): 1911  
McKim, Mead, & White, Avery Library: 1912  
Asplund, Stockholm Public Library: 1928  
Le Corbusier, Paul Otlet, The Mundaneum and the Cite Mondiale (World City): 1928, 1929  
Aalto, Viipuri Library (now Vyborg): 1927  
SOM / Bunshaft, Beinecke Rare Book and Manuscript Library, Yale: 1961  
Aalto, Cultural Center Library, Wolfsburg: 1962  
Aalto, Seinajoki City Library: 1965 and/or its extension by JKMM Architects: 2008  
Scharoun, Berlin State Library: 1967  
Kahn, Philips Exeter Academy Library: 1971  
OMA, Très Grand Bibliothèque: 1989  
OMA, Two Libraries for Jussieu: 1992  
Herzog & de Meuron, Library of BTU Cottbus: 1993  
Perrault, Bibliothèque Nationale, Paris: 1996  
Arets, Utrecht University Library: 1997  
Mecanoo, TU Delft Library: 1998  
OMA, Seattle Public Library: 1999  
Snohetta, Alexandria Library: 2001  
Ito, Sendai Mediatheque: 2001  
MVRDV, Book Mountain, Rotterdam: 2003  
Ito, Tama Art University Library: 2004  
Piano, Morgan Library Extension: 2006  
Kalach, Vasconcelos Library, Mexico City: 2006  
Fujimoto, Musashino Art University Library: 2010  
Helen & Hard, Vennesla Library and Cultural Center: 2011  
Yi Architects, Stadbibliotek Stuttgart: 2011  
Adjaye, DC Public Libraries, Bellevue and/or Francis Gregory Branch: 2012  
Snohetta, Hunt Library, North Carolina University: 2013  
Ito, National Taiwan University Library: 2014  
Ito, Gifu Media Cosmos: 2015



## WEEK 4, 5, 6: SITING + MORPHOLOGY (MACRO)

For the next few weeks, we will continue to develop your library concepts, first focusing on siting strategies. 'Site' is a layered construct that encompasses the physical, historical, political, economic and cultural frameworks that would be positively impacted by your intervention. It implies a territory of intervention that is larger than that of your physical site. *Siting* emphasizes a proactive approach to site, in addition to more passive responses to site conditions. Passive responses might include addressing existing flows, density of activity and connections to adjacent buildings or outdoor spaces – generally resulting in designing from the outside in. Proactive strategies envision the level and quality of impact on your 'site(s)' with the addition of your building. What new connections to these existing contexts would your library enable, how might it shift the current perception of the site and what new cultural or social networks could it produce? It's outside-in as well as inside-out thinking. Analyze the past, assess the present and project onto the future.

Morphology: What 'structures' the organization, flow or use of your library? In addition to the elements that are typically associated with structure, can other elements associated with use, content and navigation be foregrounded to 'structure' the experience of your building? How can you emphatically convey your project's morphology through inventive plan and section drawings?

### Readings:

Center for an Urban Future, "Branches of Opportunity", January 2013.

Shannon Mattern, "Library as Infrastructure", *Places Journal*, June 2014. Accessed 05 Oct 2015.

<https://placesjournal.org/article/library-as-infrastructure/>

Brower, Joke et al. *Information Is Alive: Art and Theory on Archiving and Retrieving Data*. Rotterdam: NAI Publishers, 2003.

## DELIVERABLES

### Concept Argument

- A 100 word conceptual argument for your project's goals.

### Analytical Drawings (Site)

- Urban fabric: history and transformation
- Demographics / Community: history and evolution
- Zoning: evolution and transformation
- Networks or Nodes: Use types, open space, parks, transportation, culture, education

### Concept Drawings (Morphology)

- Building morphology (spatial, formal, organizational strategies)
- Flow and navigation at the scales of site and building

### Studio Site Model (per studio)

- 1/20" scale: produced by the shared efforts of every student in each studio, to be formatted per studio.

### Massing Models

- 1/20" scale. As many as possible, one material and modeling technique per model: fast, furious and fluid.

## WEEK 7: MID-TERM

### DELIVERABLES

Students / instructors should choose a consistent board size and orientation.

#### Concept Argument

- A 200 word conceptual argument for your project's goals.

#### Concept Drawings

- Precedent Analysis
- Building morphology (spatial, formal, organizational strategies)
- Siting strategies
- Flow and navigation at the scales of site and building

#### Drawings

- Plans (ground floor + typical floor) @ 1/16"
- Sections (one cross + one long, including adjacent sites) @ 1/16"

#### Models

- Study models @ 1/20" to fit into the studio site model
- Proto-Building model
- Precedent models

## WEEK 10 & 11: MORPHOLOGY (MICRO): STRUCTURE + CIRCULATION

In the weeks immediately following the mid-term, students will develop their projects in response to comments received as well as via an intense focus on pairing building structure with circulation – of books and people. Students will expand their initial morphological concepts, with the goal of linking interior strategies to its expression on the exterior. For this exercise, we will approach structure as the critical interface that coalesces the experience of diverse spaces in your library. The specific formats of information (books, digital files, physical or virtual artifacts, etc.) and how they are organized and accessed are also conceptual drivers. How could the tectonics of structure and information actively engage with and impact the experiential, performative and spatial qualities of its interior spaces and the library's exterior identity?

#### Readings:

Balmond, Cecil. *Informal*. Munich: Prestel, 2002.

Wright Steenson, Molly. "Processing the Library". *MCHAP Book One*. New York: ACTAR Publishers, 2016, pp. 148-155.

### DELIVERABLES

#### Concept Drawings

- Structural systems – interior to perimeter.
- Relationships between structure, light, circulation.

#### Drawings

- Revised plans and sections @ 1/8"

#### Model

- X-Ray model of structure @ 1/8"

## **WEEK 15: FINAL**

### **DELIVERABLES**

Students should choose a consistent board size and orientation.

#### **Concept Argument**

- A 400 word conceptual argument for your project's goals.

#### **Concept Drawings**

- Building morphology (spatial, formal, organizational strategies)
- Siting strategies
- Flow and navigation at the scales of site and building
- Structural system

#### **Drawings**

- Plans (ground floor + typical floor) @ 1/8"
- Sections (one cross + one long) @ 1/4"

#### **Models**

- Model @ 1/8"

#### **Images**

- Two exterior & two interior views

## **WEEK 15: SUPER SALON**

Super Salon is a celebration of and critical discussion about the work of the semester. Each critic will share the work of his/her studio and invite the roving critics and students to join the discussion.

## **WEEK 16 & 17: END OF YEAR SHOW**

The last design exercise is the End of Year Show (EOYS) – held at the end of every spring semester after final reviews. It is a school wide celebration of the past semester's provocations, explorations and final products. Part exhibition, part installation and part event, each studio will work together to showcase their projects in the most compelling manner they see fit. Every student is expected to contribute to the design and fabrication of their studio's installation... all hands on deck!



## CORE II 2018 CLASS SCHEDULE

### WEEK 1: Lottery + Precedents

Jan. 17 Lottery Presentations  
Jan. 19 Precedent Analysis start

### WEEK 2: Precedents (Macro)

Jan. 22  
Jan. 24 Avery visit @ 2 & 3pm (MH GK JA KR sections)  
Jan. 26 Pin-up: Precedents (Macro)

### WEEK 3: Precedents (Micro) + Proto-Bldgs

Jan. 29 Avery visit @ 2 & 3pm (EG CK BC EZ sections)  
Jan. 31 Reinhold Martin talk @ 1:30pm, Rm. 114  
Feb. 2

### WEEK 4: Precedents (Micro) + Proto-Bldgs

Feb. 5  
Feb. 7 Pin-up: Precedents + Proto-Bldgs  
Feb. 9 Precedent Parade + Site Models start  
Andrea Steele talk @ 53<sup>rd</sup> St Library (TBD)  
  
Feb. 10 James Ewing model photography talk & demo  
(JA EG BC EZ sections) Rm. 114  
Feb. 11 James Ewing model photography talk & demo  
(MH GK KR CK sections) Rm. 114

### WEEK 5: Siting + Morphology (Macro)

Feb. 12 Jeffrey Schnapp talk @ 1:30pm, Rm. 114  
Feb. 14  
Feb. 16 Josh Ramus / REX visit, DUMBO (time tbd)

*Feb. 13 ADR2 Review*

### WEEK 6: Siting + Morphology (Macro)

Feb. 19 Pin-up: Siting + Morphology  
(Site model completed for this pin-up)  
  
Feb. 21  
Feb. 23

### WEEK 7: MID-TERM WEEK

Feb. 26  
Feb. 28 Mid-Term Review  
Mar. 2 Mid-Term Review  
  
Mar. 3 James Ewing model photography workshop  
(12 students max.) Rm. 115  
Mar. 4 James Ewing model photography workshop  
(12 students max.) Rm. 115

### WEEK 8: (Roving engineers invited)

Mar. 5  
Mar. 7 Book Ops visit @ 2:45pm, L.I.C., Queens  
Mar. 9

### WEEK 9: SPRING BEAK

Mar. 12 – 16

### WEEK 10: Morphology, Micro: Structure + Circulation (Roving engineers invited)

Mar. 19  
Mar. 21 Andrea Steele talk @ 53<sup>rd</sup> St Library (TBD)  
Mar. 23

### WEEK 11: Morphology, Micro: Structure + Circulation

Mar. 26 Tod Williams talk @ 1:30pm,  
Mar. 28  
Mar. 30

*Mar. 27 ADR2 Review*

### WEEK 12: Structure / 3/4 Review

Apr. 2 Structure / 3/4 Review  
Apr. 4 Structure / 3/4 Review  
Apr. 6

### WEEK 13: Siting (Micro)

Apr. 9  
Apr. 11  
Apr. 13

### WEEK 14:

Apr. 16  
Apr. 17  
Apr. 19

### WEEK 15: Final Review Week

Apr. 23 Final Review  
Apr. 24 Final Review  
Apr. 27 Super Salon, Rm. 114: 4 – 6pm

### WEEK 17: EOYS

May 12: End of Year Show

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Red: Joint or Round Robin studio pin-up's / reviews (rooms requested for entire class)  
Blue: Individual studio pin-up's, format TBD per studio (rooms to be requested per section instructor)  
Orange: Guest speaker talks, library tours or site visit  
Italics: ARII or Tech2 deadlines

## **GUEST LECTURES, LIBRARY + OFFICE VISITS, WORKSHOPS**

*All guest lectures will be held in Avery 114 at 1:30pm, unless otherwise stated.*

- January 24, 29    **Teresa Harris, Pamela Casey**, Curator, Archivist, Avery Library  
We will be visiting Avery Library in small groups to view selections from the drawings and archive collections, with a focus on drawings of libraries, understanding the processes and workflows involved in archiving as well as a special emphasis on spectacular section drawings.
- January 31    **Reinhold Martin**, Professor of Architecture, Director Buell Center, GSAPP  
Reinhold will present a paper entitled “The Order of Libraries”, discussing the impact of libraries and their collections on cultural discourse, chronologically backwards from OMA’s DOHA to Boulée.
- February 10, 11    **James Ewing**, Artist, Architectural / Model Photography  
March 3, 4    James is an artist engaged in illustrating architecture, landscapes and scale models. He most recently photographed the models for GSAPP’s Stagecraft exhibition at the Buell Center. He will conducting a mandatory weekend workshop (Feb. 10, 11) and a second optional small group workshop (Mar. 3, 4) on model photography – the skill and the art behind using model photography as an explorative design tool.
- February 12    **Jeffrey Schnapp**, Director at metaLAB, Harvard | Co-Director of the Berkman Klein Center for Internet and Society | Pescosolido Chair in Romance Languages and Comp. Lit, Harvard | Faculty, GSD.  
metaLAB is a knowledge-design lab and production studio experimenting in the networked arts and humanities. Jeffrey’s writing projects focus on the intersection between media, technology, design and the history of the book. His work is widely referenced in this syllabus.
- February 16    **Joshua Ramus**, Principal, REX  
We will be visiting the office of REX, in DUMBO. Joshua will discuss the Seattle Public Library, which he led whilst a partner at OMA.
- March 7    **Book Ops, NYPL Central Distribution and Book Sorting Facility**, Long Island City  
We will visit Book Ops, the shared strategic collection management and distribution center for all of Manhattan, Bronx, Staten Island and Brooklyn public branches (150 library buildings). Book Ops moves more than 1 million items annually.
- Date TBD    **Andrea Steele**, Principal, TEN Arquitectos  
Andrea oversees the New York office of TEN Arquitectos and will present her recently completed 53<sup>rd</sup> Street Library on site, in its open auditorium. Students will have a chance to tour the library before or after her talk.
- March 26    **Tod Williams**, Partner, Tod Williams Billie Tsien Architects  
TWBTA has contributed significant buildings in the civic, cultural, education realms for over thirty years. Tod will present their ongoing project – the Obama Presidential Library.

## REFERENCES & READINGS

Readings will be uploaded on Canvas. Refer to the "Schedule of Design Exercises & Deliverables" for the required readings that correspond to the exercises.

### Books

- Balmond, Cecil. *Informal*. Munich: Prestel, 2002.
- Battles, Matthew. *Library: An Unquiet History*. New York: W.W.Norton & Company, 2004.
- Borges, Jorge Luis. "The Library of Babel". *Labyrinths*. New York: New Directions Publishing, 1964.
- Brower, Joke et al. *Information Is Alive: Art and Theory on Archiving and Retrieving Data*. Rotterdam: NAI Publishers, 2003.
- Campbell, James W.P. *The Library: A World History*. Chicago: University of Chicago Press, 2013.
- Wright Steenson, Molly. "Processing the Library". *MCHAP Book One*. New York: ACTAR Publishers, 2016, pp. 148-155.
- Schnapp, Jeffrey T. and Matthew Battles. *The Library Beyond the Book*. Cambridge: Harvard University Press, 2014.

### Articles

- Michael Agresta, "What Will Become of the Library?", *Slate*, April 2014. Accessed 04 Nov 2015.  
<[http://www.slate.com/articles/life/design/2014/04/the\\_future\\_of\\_the\\_library\\_how\\_they\\_ll\\_evolve\\_for\\_the\\_digital\\_age.html?wpsrc=sh\\_all\\_mob\\_em\\_ru](http://www.slate.com/articles/life/design/2014/04/the_future_of_the_library_how_they_ll_evolve_for_the_digital_age.html?wpsrc=sh_all_mob_em_ru)>
- Scott Bennett, "Libraries and Learning: A History of Paradigm Change", *Libraries and the Academy*, April 2009, pp. 181-197.
- Center for an Urban Future, "Branches of Opportunity", January 2013.  
<[https://nycfuture.org/pdf/Branches\\_of\\_Opportunity.pdf](https://nycfuture.org/pdf/Branches_of_Opportunity.pdf)>
- Elizabeth Felicella, "Reading Room: A Catalog of New York City's Branch Libraries", *Urban Omnibus*, November 19, 2014. <<http://urbanomnibus.net/2014/11/reading-room-a-catalog-of-new-york-citys-branch-libraries/>>
- Sarah Williams Goldhagen, "The Revolution at Your Community Library", *New Republic*, March 9, 2013.
- Anita Hamilton, "The Public Library Wants To Be Your Office", *Fast Company*, August 8, 2014.  
<<http://www.fastcompany.com/3034143/the-public-library-wants-to-be-your-office>>
- Michael Kimmelman, "Next Time Libraries Could Be Our Shelters From The Storm", *The New York Times*, October 3, 2013. <[http://www.nytimes.com/2013/10/03/arts/design/next-time-libraries-could-be-our-shelters-from-the-storm.html?\\_r=0](http://www.nytimes.com/2013/10/03/arts/design/next-time-libraries-could-be-our-shelters-from-the-storm.html?_r=0)>
- Shannon Mattern, "Library as Infrastructure", *Places Journal*, June 2014. Accessed 05 Oct 2015.  
<<https://placesjournal.org/article/library-as-infrastructure/>>
- Shannon Mattern, "Middleware: Landscapes of Library Logistics", *Urban Omnibus*, Jun. 24, 2015.  
<http://urbanomnibus.net/2015/06/middlewhere-landscapes-of-library-logistics/>
- Jeffrey T. Schnapp, Warehouses of Thoughts and Things, *Harvard Design Magazine*, No. 38, Spring-Summer 2014, pp. 24-29.
- David Weinberger, "Library as Platform", *Places Journal*, September 4, 2012. Accessed 15 Nov 2015.  
<[http://lj.libraryjournal.com/2012/09/future-of-libraries/by-david-weinberger/#\\_](http://lj.libraryjournal.com/2012/09/future-of-libraries/by-david-weinberger/#_)>

### Additional Links: Digital Library Labs / Organizations / Experiments

- Digital Public Library of America*: bringing together material from America's libraries, archives and museums, for free access to the public, based at the Boston Public Library. <<http://dp.la>>
- Library as Incubator Project*: promoting and facilitating collaborations between libraries and artists.  
<<http://www.libraryasincubatorproject.org>>
- Library Test Kitchen*: GSD seminar conducted by metaLAB's Jeffrey Schnapps, "reinventing the library one component at a time" <<http://www.librarytestkitchen.org/index.php>>
- metaLAB (at) Harvard*: Library think tank, knowledge-design lab, production studio: <<http://metalab.harvard.edu>>
- NYPL Labs*: an interdisciplinary team working on digitization of NYPL's holdings.  
<<http://www.nypl.org/collections/labs>>
- Re-envisioning Branch Libraries*: Speculative design studies from five teams, organized by The Architectural League of NY in conjunction with Center for Urban Futures. <<http://archleague.org/2014/07/re-envisioning-branch-libraries/>>

## Additional Links: Site Background

<http://dumbonyc.com/dumbo-history/>

<http://www.history.com/topics/brooklyn-bridge>

<http://www.southbrooklyn.com/neighborhood/dumbo>

<https://www.brooklynbridgepark.org/pages/history>

<http://www.brooklynwaterfronthistory.org/story/mass-transit-brooklyn-style/>

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<sup>1</sup> Jeffrey Schnapp, Matthew Battles, *The Library Beyond the Book* (Cambridge, Harvard University Press, 2014).

<sup>2</sup> Matthew Battles, *Library: An Unquiet History* (New York: W.W.Norton & Company, 2004).

<sup>3</sup> Shannon Mattern, personal conversation, Oct. .

<sup>4</sup> Matthew Battles, *Library: An Unquiet History*.

<sup>5</sup> Lionel Casson, *Libraries of the Ancient World* (New Haven: Yale University Press, 2002).

<sup>6</sup> Battles, *Library: An Unquiet History*

<sup>7</sup> James W.P. Campbell, *The Library: A World History* (Chicago: University of Chicago Press, 2013).

<sup>8</sup> Campbell, *The Library: A World History*, 136-137.

<sup>9</sup> Campbell, *The Library: A World History*

<sup>10</sup> Battles, *Library: An Unquiet History*

<sup>11</sup> Battles, *Library: An Unquiet History*

<sup>12</sup> Battles, *Library: An Unquiet History*, 130.

<sup>13</sup> Battles, *Library: An Unquiet History*, 130-131.

<sup>14</sup> Battles, *Library: An Unquiet History*, 202.

<sup>15</sup> Michael Agresta, "What Will Become of the Library?", *Slate*, April 2014. Accessed 04 Nov 2015.

<[http://www.slate.com/articles/life/design/2014/04/the\\_future\\_of\\_the\\_library\\_how\\_they\\_ll\\_evolve\\_for\\_the\\_digital\\_age.html?wpsrc=sh\\_all\\_mob\\_em\\_ru](http://www.slate.com/articles/life/design/2014/04/the_future_of_the_library_how_they_ll_evolve_for_the_digital_age.html?wpsrc=sh_all_mob_em_ru)>

<sup>16</sup> Agresta, "What Will Become of the Library?".

<sup>17</sup> Scott Bennett, "Libraries and Learning: A History of Paradigm Change", *Libraries and the Academy*, April 2009, pp. 181-197.

<sup>18</sup> Bennett, "Libraries and Learning: A History of Paradigm Change".

<sup>19</sup> Jeffrey T. Schnapp, Warehouses of Thoughts and Things, *Harvard Design Magazine*, No. 38, Spring-Summer 2014, pp. 24-29.

<sup>20</sup> Anita Hamilton, "The Public Library Wants To Be Your Office", *Fast Company*, August 8, 2014.

<sup>21</sup> Mattern, "Library as Infrastructure".

<sup>22</sup> Agresta, "What Will Become of the Library?".

<sup>23</sup> Zadie Smith,

<sup>24</sup> Sarah Williams Goldhagen, "The Revolution at Your Community Library", *New Republic*, March 9, 2013.

<sup>25</sup> Center for an Urban Future, "Branches of Opportunity", January 2013.

<[https://nycfuture.org/pdf/Branches\\_of\\_Opportunity.pdf](https://nycfuture.org/pdf/Branches_of_Opportunity.pdf)>

<sup>26</sup> Center for an Urban Future, "Branches of Opportunity".

<sup>27</sup> Joel Rose, "For Disaster Preparedness: Pack a Library Card?", *NPR WNYC Radio*, August 12, 2013.

<sup>28</sup> Mattern, "Library as Infrastructure".

<sup>29</sup> Schnapp and Battles, *The Library Beyond the Book*.

<sup>30</sup> Battles, *Library: An Unquiet History*, 196-197.

<sup>31</sup> Agresta, "What Will Become of the Library?".

<sup>32</sup> Agresta, "What Will Become of the Library?".

<sup>33</sup> Lefebvre

<sup>34</sup> Schnapp and Battles, *The Library Beyond the Book*.

<sup>35</sup> Shannon Mattern, "Middleware: Landscapes of Library Logistics", *Urban Omnibus*, Jun. 24, 2015.