Reframing the Branch Library:
Enhancing Communication for the Public Good

by

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CONTENTS

ABSTRACT

The public library is challenged by changing technologies and the spread of commercial strategies which undermine the purpose of the institution. The library must remain a key part of mass communication in a democracy, and a thriving network of branch libraries ensures that every small community has a place which enhances communication for the public good. The architecture of the library shapes how visitors interact with the collection and with each other, and the building can be designed to enhance the communication taking place inside it. The building can also convey institutional values through its built form, such as the celebration of plurality. Spatial metaphor is a primary means by which architecture can communicate complex ideas.

This thesis explores generalizable strategies for the design of branch libraries, and tests them through the design of a particular branch in Edmonton, Alberta.

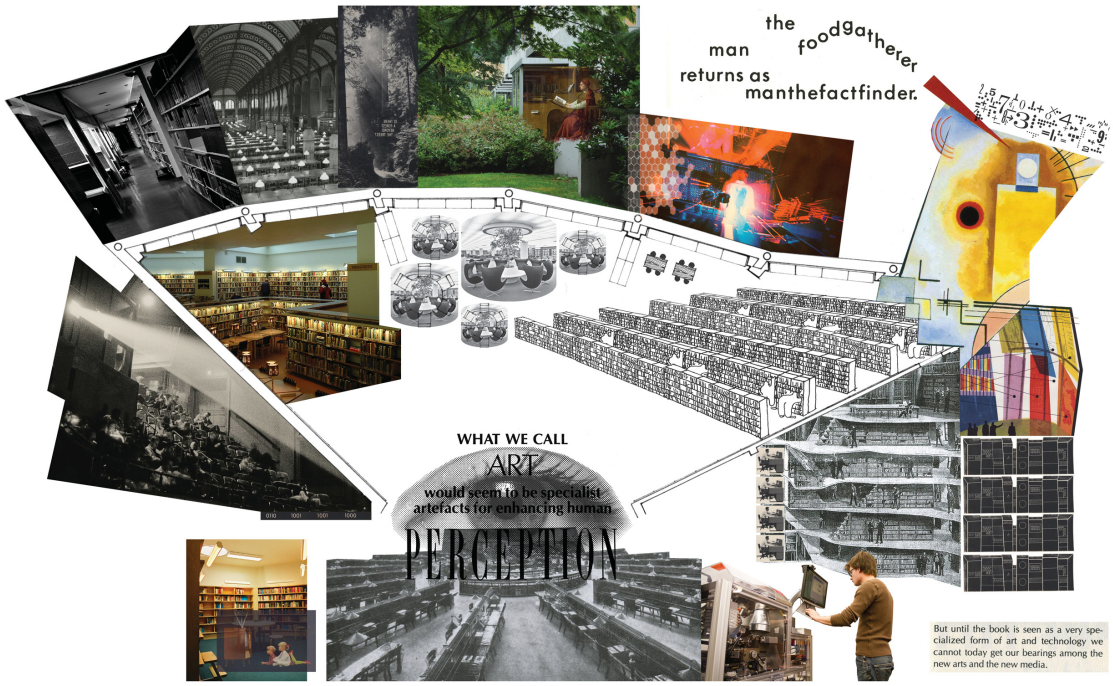
ACKNOWLEDGEMENTS

This thesis was a significant undertaking that I could not have completed alone. I would like to thank Christine Macy and Sarah Bonnemaison for their insightful criticism and constant enthusiasm; it was invaluable. I thank all of my friends for their support and feedback as I attempted to synthesize the complex ideas that I was exploring. I thank the Edmonton Public Library for their tireless innovation, and for being a shining example of how public libraries empower their communities. And finally, I must express boundless gratitude to my family and to Anna-Kristen Siy for their overwhelming love and encouragement.

S.D.G.

CHAPTER 1: INTRODUCTION

1.1 Situating the Contemporary Public Library



Collage of library spaces

In an era of rapid cultural and technological change, the public library remains a vital democratic institution. By providing citizens with equal access to information, economic inequality cannot directly translate into knowledge inequality.

> In the library the community has a force potent enough to render more good to the populace than any single force or body I know. Unlike the church, it serves people of all creeds; unlike the school, its doors are open to people of all ages; its shelves are open to one and all regardless of race or worldly possessions. It can do more to educate the people, young and old, to help keep a democratic, representative government alive and destroy hates and narrow thoughts more than any other means known.[1]

Communication is at the heart of contemporary life, and the library is the only public institution that can safeguard the values of plural democracy in a communications landscape primarily shaped by commercial interests.[2] Further, as media continue to

1 C.B. Joeckel, quoted in Todd Babiuk, *Just Getting Started: Edmonton Public Library's First 100 Years, 1913-2013* (Edmonton: University of Alberta Press, 2013), 116.

2 Arthur W. Hafner, and Jennifer Sterling-Folker, "Democratic Ideals and the American Public Library," in *Democracy and the Public Library: Essays on Fundamental Issues,* ed. Arthur W. Hafner (Westport, Connecticut: Greenwood Press, 1993), 18.

evolve, information literacy becomes as vital as information access. Libraries are tackling this head-on, with the job of “Digital Literacy Librarian” becoming increasingly common.

The library is uniquely positioned to safeguard pluralist values within a democracy, as the very concept of the institution emphasizes diversity: the collection gathers together works from a plethora of authors, sowing relationships between them as a result. Yun Lee Too argues that the emergence of libraries in the ancient world helped “reconfigure social and political relations”, since a collection of texts by many different authors communicates information in a vastly different manner than “the single, orally presented text, which by and large reinforces the structure of the pre-existing community.”[3] She further argues that the most remarkable thing about the Library of Alexandria was that it gathered a group of individuals around a diverse collection of texts, not around a set of stories or teachings.[4] The contemporary public library continues this tradition, presenting visitors with a cornucopia of works (books, films, songs, video games), and inviting them to seek out the ones which excite and interest them most. Ken Worpole notes that, “libraries embrace the value of cultural pluralism, offering both the popular and the specialist texts, genre fiction as well as avant-garde literature, Hollywood films as well as wildlife documentaries.”[5] Instead of promoting conformity, the public library provides a collection as varied as the world for visitors to explore.

Against this encouraging picture, however, the architecture of public libraries has been gradually undermined. The building’s program has lost a critical focus, and the lines between library, bookstore, and community centre are weaker than they ought to be. Simultaneously, digital information storage has emerged to challenge the institution’s deepest spatial constraints. While these developments have inspired architects to take a critical look at libraries, explorations have focused primarily on new central libraries for large urban centres. Seattle, Amsterdam, and Copenhagen all feature ‘world-class’ buildings that present a particular idea of what a twenty-first century library looks like. At the societal scale, these buildings take a centralist approach: a vital institution is given

3 Yun Lee Too, *The Idea of the Library in the Ancient World* (Oxford: Oxford University Press, 2010), 221.

4 Ibid., 225.

5 Ken Worpole, *Contemporary Library Architecture: A Planning and Design Guide* (London: Routledge, 2013), 187.

Amsterdam Central Library, 2009

Seattle Central Library, 2010; from Rients Dijkstra and Christine Gardner, eds, *The Architecture of Knowledge: The Library of the Future*

one large, powerful core, and its users flock to it. In a networked world dominated by a decentralist internet, this seems like an outmoded approach. The contemporary attention lavished on grand libraries has resulted in many cities neglecting their branch networks, even reducing funding.[6]

This thesis argues that in a networked world, the neighborhood branch library plays a critical role in enhancing communication. While large central libraries can monumentalize the institution and serve as points of civic pride, it is unreasonable (and unrealistic) to expect patrons to regularly commute to visit them. At the neighborhood scale, library staff can build close relationships with community members and provide the support they require in a society experiencing information-overload. Any community member, unsure about the validity of information he is working with, can walk down the street and receive free support. A great deal of contemporary communication takes place in 'third places' that are neither home nor work, and the library must remain a uniquely accessible one among them.[7] This thesis seeks to reframe the branch library as a neighborhood communication hub, responding to the spatial challenges faced by the public library as it adjusts to the twenty-first century.

6 Worpole, *Contemporary Library Architecture,* 21.

7 Alistair Black, Simon Pepper, and Kaye Bagshaw, *Books, Buildings and Social Engineering: Early Public Libraries in Britain from Past to Present* (Farnham, England: Ashgate, 2009), 2.

1.2 An Evolving Institution

Understanding how public library architecture has developed thus far is vital for proposing a future trajectory. The public library emerged in the middle of the nineteenth century as a staunchly progressive institution within early democratic society. As Black, Pepper, and Bagshaw note in their extensive study of UK public library architecture:

> Whether material or cultural in their purpose, public libraries emerged at a time of great social tension and flux, created as institutions that could stabilize society and heal the wounds that early industrialization had inflicted. As a core component of the civic ideal's endorsement of progress, the public library was symbolic of the desire to create a new society, industrialized yet civilized, morally disciplined yet democratic and replete with opportunities for education and social advance.[8]

The new public libraries had a rich history of architecture to draw from. Michael Brawne identifies two traditions that defined library architecture from the classical world through to the modern era. The first is a grand room lined with books (in the ancient world, shelving for papyrus scrolls). The library in the Roman colony of Ephesus reflects this type, and its ruins have survived to the present. The second tradition came out of the monasteries of northern Europe: the monks had far fewer books to store and required places for long periods of study, and so the carrel form emerged. As Brawn notes: "enclosure was created there by the disposition of furniture – book case, bench and a reading shelf – placed at right angles to the solid parts of the wall between the regularly spaced windows."[9] The first tradition emphasizes the grandeur of standing in a room lined with texts, while the second emphasizes the needs of individual readers.

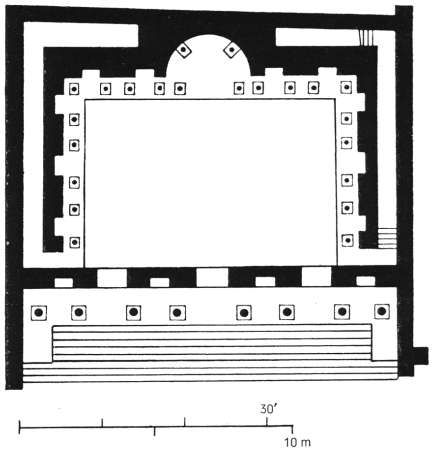
As the modern world emerged and libraries became flooded with books, an influential form of library organization was developed that featured a tripartite division between [book] stacks, reading room, and offices.[10] Cast iron became a prominent material in these new libraries, as it allowed for expansive book stacks and even more expansive reading halls.[11] This new type, best illustrated by the Bibliotheque Saint Genevieve (1850), and the British Library Reading Room (1857), emphasizes the importance of the individual reader through different means than the monastic libraries. Here, the reader surrounds

8 Ibid., 32.

9 Michael Brawne, *Libraries: Architecture and Equipment* (London: Pall Mall,1970), 10-11.

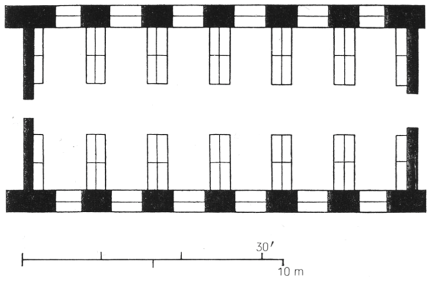
10 Ibid., 14.

11 Matthew Battles, *Library: An Unquiet History* (London: W.W. Norton & Company, 2003), 124.



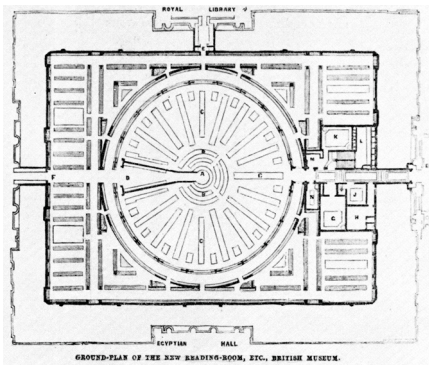
The Library at Ephesus, circa 115 A.D.; from Brawne, *Libraries*

Surviving interior of the Library at Ephesus, 2013; photograph by Rainer Otto

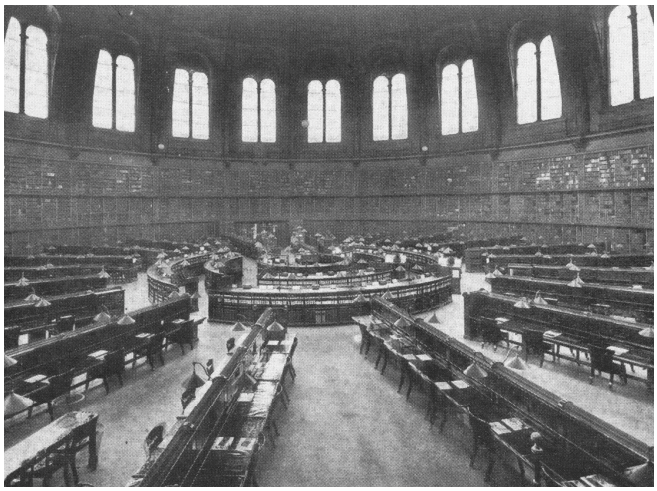


Library of Queens' College, Cambridge, 1448; from Brawne, *Libraries*

Trinity Hall, Cambridge. Furniture from around 1600; photograph by Will Pryce



The British Museum Reading Room, 1857; from Brawne, *Libraries*



The British Museum Reading Room, 1934; from Black et al., *Books, Buildings and Social Engineering*

himself with a few books brought to him by staff, and the sense of privacy and detachment is generated not from a physical enclosure, but from the experience of being a small person in a grand hall.[12] This tripartite scheme emerged shortly before the establishment of the first public libraries, and proved very influential in early public libraries alongside the older tradition of the book-lined room.

Britain passed its Public Libraries Act in 1850, two short years after Massachusetts became the first state to legislate them into existence in the US.[13] By 1853, the architect brothers John and Wyatt Papworth had published a treatise on the design of public cultural institutions, *Museums, Libraries, and Picture Galleries,* which remained the only manual for public library design until later in the century.[14] The construction of purpose-built public libraries began very gradually. A significant proportion of early public libraries were housed in buildings converted from other uses, and the library movement developed slowly because of strong opposition to spending tax money on a new institution.[15] Interestingly, the necessity for an urban network of community libraries had been realized very early. The Papworths note that "in large towns … there should be district libraries … to save time in going from one neighborhood to another."[16] Indeed, 1853 saw the establishment of two branch libraries in Liverpool.[17]

As the nineteenth century progressed, the Victorian propensity for classification entered the library, and resulted in numerous different rooms for different patrons, such as the News[paper] Room for working men and job hunters, a magazine room with a fireplace and comfortable furniture for women, the reference collection for the scholar or student, and occasionally a conversation, smoking, or games room for gentleman.[18] The 1880s also saw the beginning of a decades-long boom in public library construction, fueled by the significant philanthropy of Andrew Carnegie and other industrialists wanting to invest

12 Brawne, *Libraries*, 17.

13 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering,* 28, 83-4.

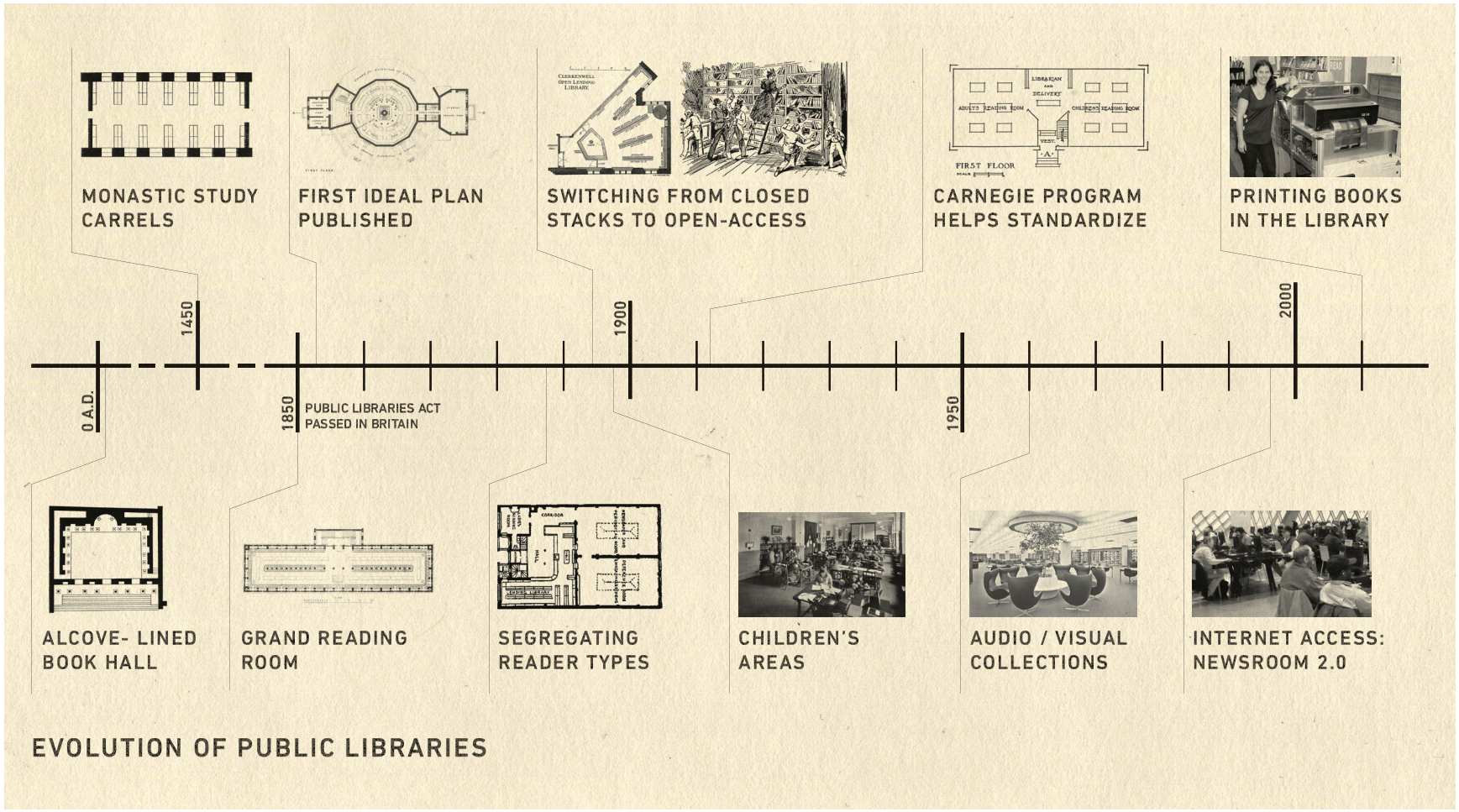
14 Ibid., 73-4.

15 Ibid., 29, 345.

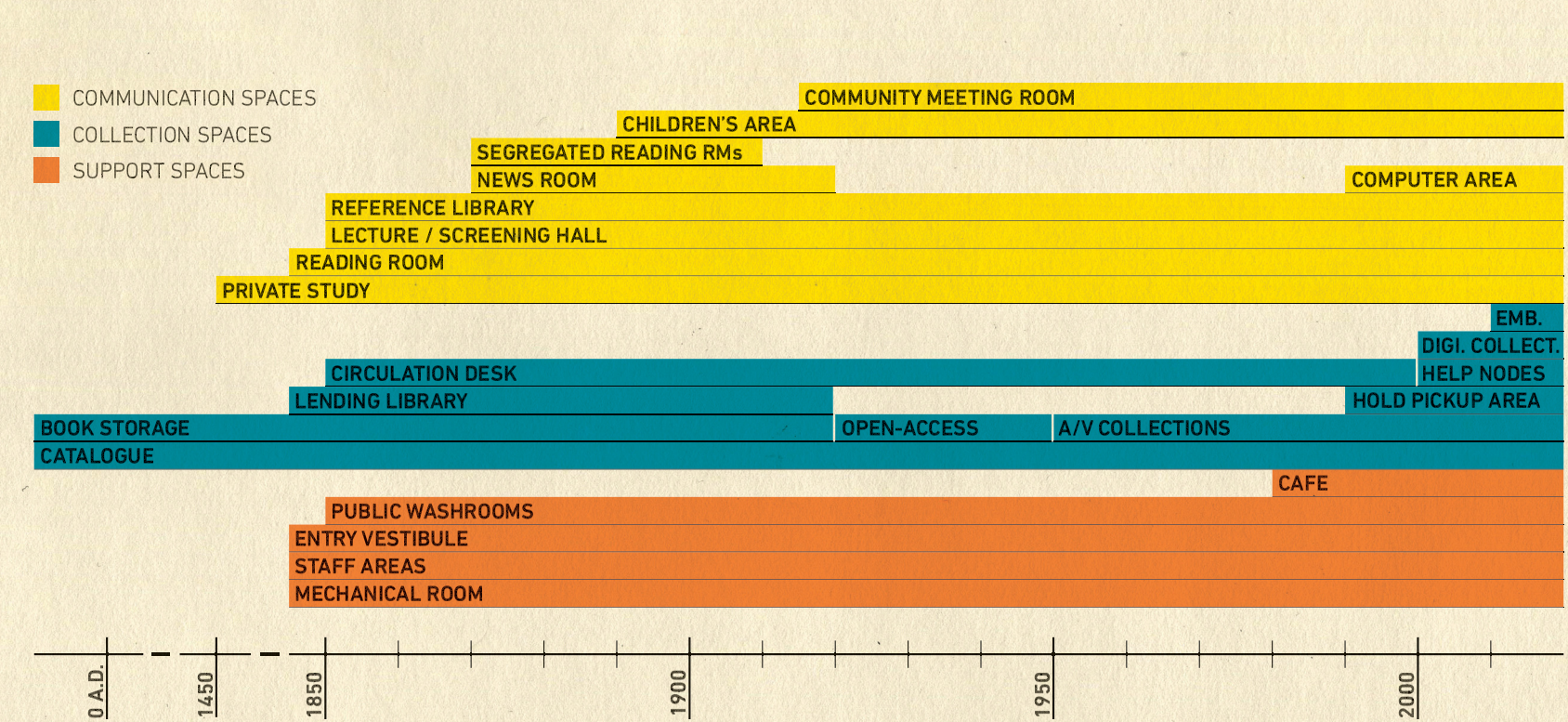
16 John Papworth and Wyatt Papworth, *Museums, Libraries, and Picture Galleries, Public and Private: Their Establishment, Formation, Arrangement, and Architectural Construction* (London: Chapman and Hall, 1853), 18.

17 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering,* 29.

18 Ibid., 98-9.



Timeline of public library architecture



ACCUMULATION OF PUBLIC LIBRARY PROGRAM AREAS

The public library has slowly incorporated program areas over its lifetime. While some areas were removed, most of them have re-emerged in a slightly different form. The large number of areas is indicative of the wide range of contemporary communications media.

their wealth back into the community.[19] The significance of Carnegie's contribution to the public library movement cannot be overstated: nearly 3000 public libraries received funds from the Carnegie Corporation.[20]

The public library underwent a significant shift from "closed-stack" libraries to "safeguarded open access" ones during the 1890s through the 1930s.[21] For their first 50 years, public libraries forbade patrons to browse the book stacks. Instead, patrons would request books which the library staff would fetch. Allowing visitors to browse the collection solved many inefficiencies of this system, and it also became an impetus to simplify typical library schemes.[22] As librarians emerged as professionals, they quickly began collectively criticizing the physical layouts of libraries.[23] Efficiency became a defining ideal in library design by the early twentieth century, and the feeling that utilitarian concerns should take precedence over purely aesthetic ones was widespread.[24] In 1911 the Carnegie Corporation published a manual on the basics of library architecture, *Notes on the Erection of Library Buildings,* and by 1915 the manual included a set of schematic plans for branch libraries.[25] While most of the Carnegie-funded libraries had been constructed by this point, the manual is notable for the sense of 'best-practice' it implies for the design of the institution and the role of the architect. The author, Carnegie's secretary James Bertram, emphasizes that:

> [N]o elevations are given or suggestions made about the exteriors. These are features in which the community and architect may express their individuality, keeping to a plain, dignified structure and not aiming at such exterior effects as may make impossible an effective and economical layout of the interior.[26]

Over the course of the twentieth century the building incorporated areas for new communication technologies as they have emerged, such as vinyl records, cassette

19 Ibid., 118.

20 Ibid., 34.

21 Ibid., 211.

22 Ibid., 234.

23 Abigail Ayres Van Slyck, *Free to All: Carnegie Libraries & American Culture, 1890-1920* (Chicago: University of Chicago Press, 1995), 5.

24 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering,* 277-8.

25 Van Slyck, *Free to All*, 35.

26 James Bertram, quoted in Van Slyck, *Free to All*, 223.

tapes, and DVDs.[27] Informal reading areas interspersed among areas of book stacks slowly replaced the formal reading room.[28] Silent study has given way to once unthinkable amenities such as coffee shops. Cutting edge production technologies such as on-demand book printers and 3D printers are also finding a niche within libraries, and more novel technologies will jostle for space in the building over the next century.[29] All of these developments strengthen the library as a comprehensive information hub, but they have happened piecemeal, with the architecture often responding to the changes instead of providing a powerful framework for them to take place within.

Public library architecture has evolved to accommodate new media types and the program areas which support them, all with the goal of enhancing public communication. It has progressed beyond the tripartite division of book stacks, reading room, and offices, towards an open landscape-like interior. The new configuration, and the plethora of program areas it contains, allows the library to exist as a microcosm of the twenty first century's mixed media communication landscape.

1.3 Framing Communication

The *raison d'etre* of the public library is to enhance communication for the public good. Communication within the library takes place in a number of ways: person-to-person, person-to-group, text-to-person, text-to-group, and collection of texts-to-person.[30] To explore communication between people or between people and objects, one must talk about understanding, and framing is central to human understanding. The sociologist Erving Goffman was an early theorist of framing, which he described as "schemata of interpretation" that allow an individual to "locate, perceive, identify, and label" the aspects of a situation they are experiencing.[31] Frames allow individuals to quickly interpret a

27 Worpole, *Contemporary Library Architecture,* 69.

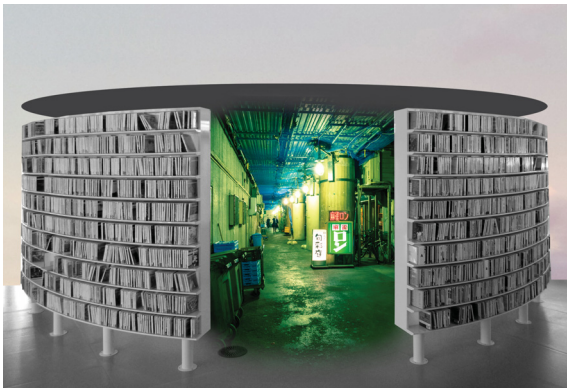
28 Ibid*.,* 99.

29 Kathleen Charlebois, "Edmonton Public Library's New Makerspace Makes Geek Chic," *Edmonton Journal,* February 13, 2014, http://www.edmontonjournal.com/Edmonton+Public+Library+makerspace+makes+geek+chic/9500985/story.html.

30 For the ease of discussing communication in the mixed-media library, 'text' and 'work' are used throughout the thesis to refer to any object in the library's collection, whether it is a book, music recording, film, or video game.

31 Erving Goffman, *Frame Analysis: An Essay on the Organization of Experience* (New York: Harper & Row, 1974), 21.


Objects frame the spaces they exist in, particularly if there is juxtaposition between the two.

Spaces frame the activities that take place within them. The activities then frame the space.

situation and how they are expected to behave within it. The conversational differences between a job interview and catching up with a friend can be summarized in the differences between the two frames. In a medical exam, the doctor examines the patient, not the inverse. The anthropologist Gregory Bateson noted that “a frame is metacommunicative. Any message, which either explicitly or implicitly defines a frame, *ipso facto* gives the receiver instructions or aids in his attempt to understand the messages included within the frame.”[32] Vitally, Bateson further perceived the gestalt figure-ground relationship inherent in framing: any situation is a figure, perceived within the context (ground) framing it.[33] The context framing a message will significantly shape the interpretation of it; this fundamental insight is summarized by Marshall McLuhan’s phrase “the medium is the message.”[34] Thus, library architecture is a medium that frames the messages within its collection.

32 Gregory Bateson, *Steps to an Ecology of Mind* (New York: Ballantine Books, 1972), 188.

33 Ibid., 188-9.

34 Marshall McLuhan, *Understanding Media: The Extensions of Man* (Corte Madera, California: Gingko Press, 2003), 19.

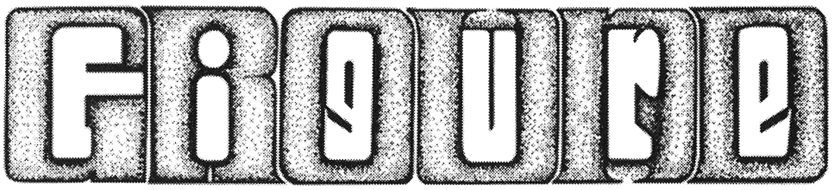


Diagram of figure/ground interplay, 1999; from Robert J. Sternberg, *Cognitive Psychology*. The image is multistable, since each word can act as a figure while the other acts as ground. The interplay occurs in human perception as the figure/ground relation changes.

The central questions of library design all engage framing: how does a library frame its collection, its visitors' interactions with the collection, and the discourse between visitors? A deeper understanding of framing is essential to adequately grapple with these situations. Mark Johnson and George Lakoff identify metaphor as the central process: it allows any situation to be understood [framed] using the frames of a different situation. They note that: "the essence of metaphor is understanding and experiencing one kind of thing in terms of another."[35] And so when a person uses the THEORIES ARE BUILDINGS metaphor, and speaks of "the foundation that my theory is built on," or of, "how I will buttress my theory," she is *experiencing* theories as things which can be grounded and buttressed.[36] Johnson and Lakoff further observe a key pattern: concrete physical experience is overwhelmingly used to metaphorically frame abstract experience.[37] This results in common metaphors such as IDEAS ARE FOOD ("that idea is rotten"), and AN ARGUMENT IS A JOURNEY ("he walked me through his argument").[38] Further, they argue that abstract concepts like ARGUMENT or LOVE are entirely understood through a rich fabric of metaphors.[39] The physical concepts like OBJECT and CONTAINER used to frame abstract ones like THEORIES and MIND are prototypical schemata learned directly from embodied experience.[40] Simply by existing in a body, every human understands the idea of CONTAINMENT, of entities that have an inside and an outside. Concepts such as VERTICALITY, BALANCE, and DIRECTION

35 George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 2003), 5.

36 Ibid., 52-3.

37 Ibid., 59.

38 Ibid., 91, 108-9.

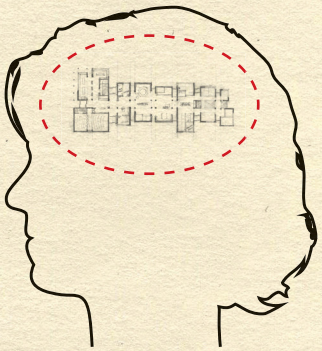
39 Ibid., 108.

40 Mark Johnson, *The Body in the Mind: the Bodily Basis of Meaning, Imagination, and Reason* (Chicago: University of Chicago Press, 1987), xiv.

ANALYZING COMMON METAPHORICAL LANGUAGE:

"I grasp that idea."

> > > FRAMES > > >

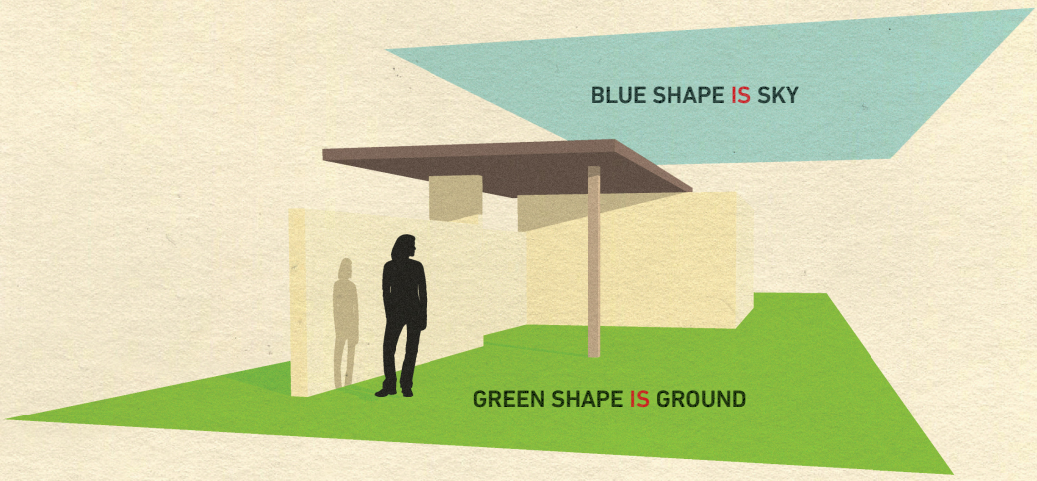


DOMAIN A
GRASPING AN OBJECT
The physical experience of grasping an object is one of containing and having control over something.

"I grasp that idea."
is built from the metaphors:
IDEAS ARE OBJECTS
THE MIND IS A CONTAINER

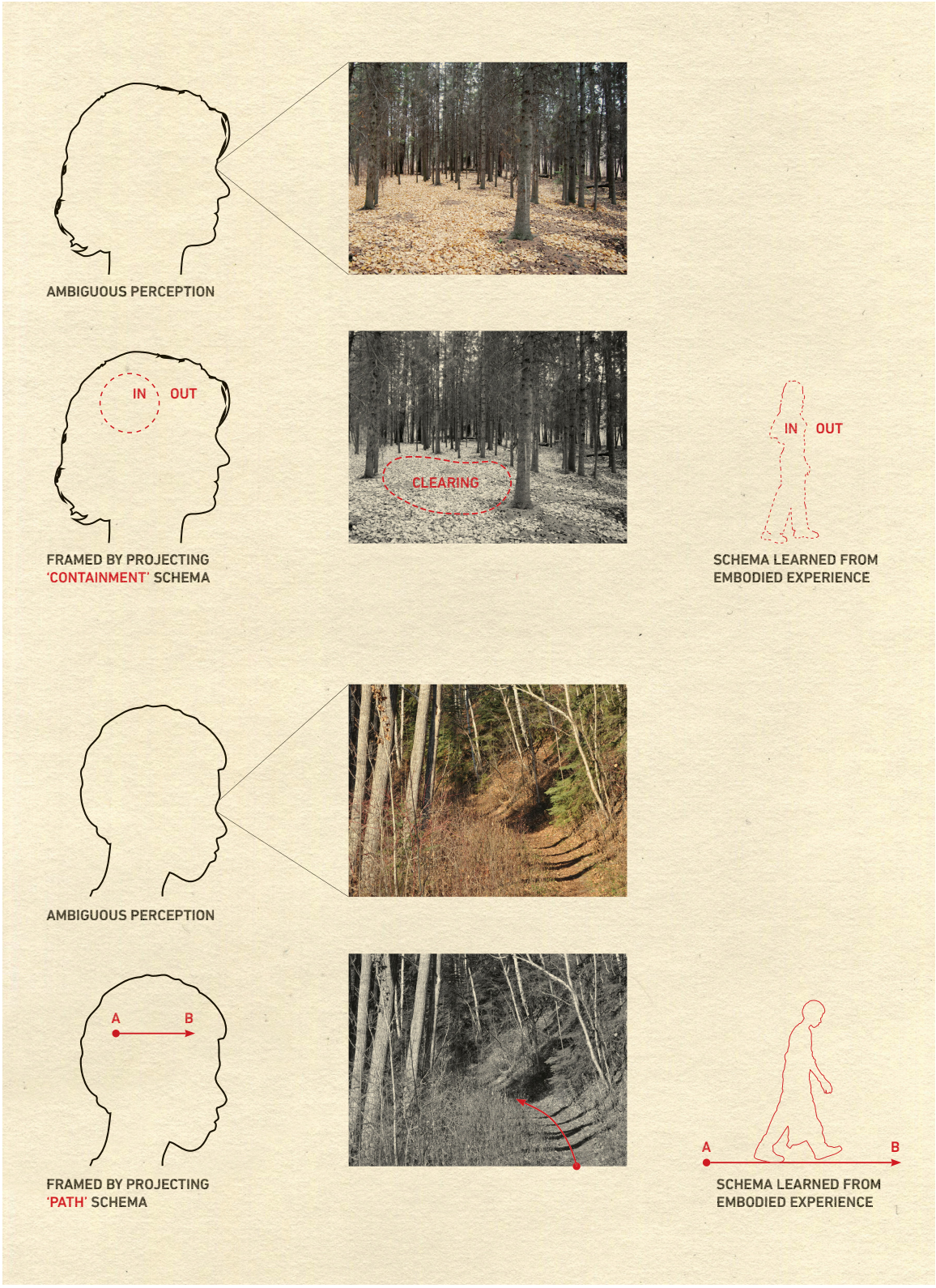
DOMAIN B
UNDERSTANDING AN IDEA
When a person understands an idea, they have gained control over it. They understand the idea as a thing *inside* their mind.

READING IMAGES AS A METAPHORICAL PROCESS

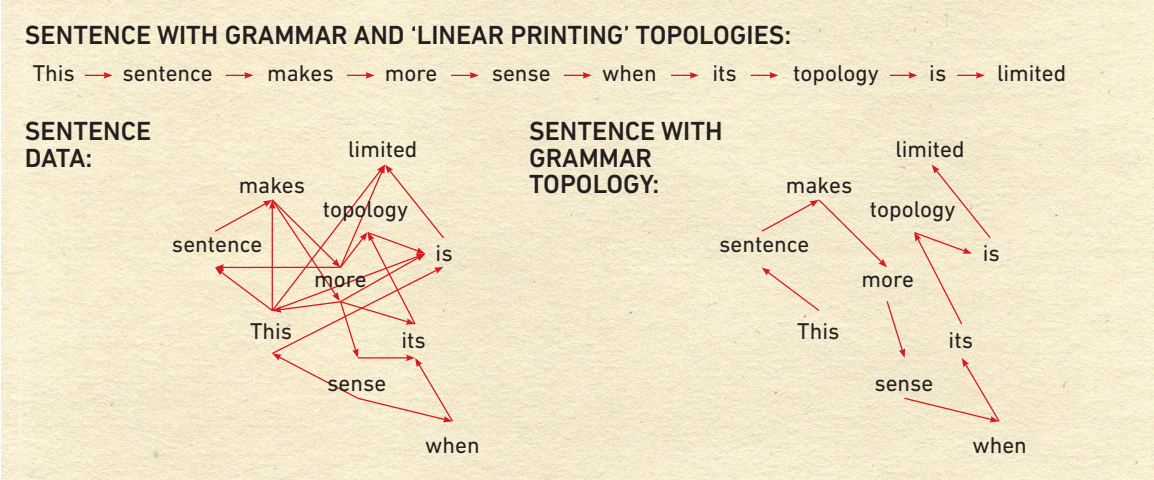


The image above is shapes of colour printed on paper. By metaphorically equating the ink on the page with visual perception of the world itself, viewers see ground, sky, a wall, roof, and a person.

Metaphors map the structure of one type of experience onto another. Unclear experiences can be understood by framing them using other structures that a person is already familiar with. Structures from physical experience are often used to clarify social and mental experiences.



Johnson's concept of image schemata. When faced with an ambiguous situation, a person quickly begins to interpret it using simple concepts (schemata), learned from bodily experience, as frames. Schemata diagrams adapted from Johnson, *The Body in the Mind*



Topologies frame information, speeding up the process of reading it while also limiting valid interpretations. Diagram reproduced from Dade-Robertson, *The Architecture of Information*

are human universals, and cultural diversity emerges from how these physical schemata are used to frame abstract concepts. The way that space is configured will evoke certain schemata over others: an obelisk in the centre of a plaza recalls the VERTICALITY and CENTRE-PERIPHERY schemata, and humans will be quick to interpret their experience of the obelisk using those concepts. Each schema defines a "space concerned with places or objects and their association with one another, independent of metric distance or geometry," which Dade-Robertson defines as a topology.[41] A library design that enhances plurality will need to imply certain metaphors and schemata while avoiding others.

While seldom explored on its own terms, metaphor has a strong role within architecture. The living room in the Aaltos' Villa Mairea is metaphorically framed as a grove of trees, and in their Newton Library, the Patkaus evoke the ambiguity and security of a shelter in a forest clearing. By using these natural metaphors in their architecture, the Aaltos and Patkaus have attempted to evoke the spatially ambiguous experiences of nature, not the strongly defined ones of urban environments. This becomes useful in the context of public libraries. If the building hopes to encourage multiple readings instead of offering a single authoritative voice, spatial ambiguity is required. At its best, the library is a framework that houses spaces for communication, contains a collection, and acts as a rich landscape for its visitors to explore.

41 Martyn Dade-Robertson, *The Architecture of Information: Architecture, Interaction Design and the Patterning of Digital Information* (New York: Routledge, 2011), 158.

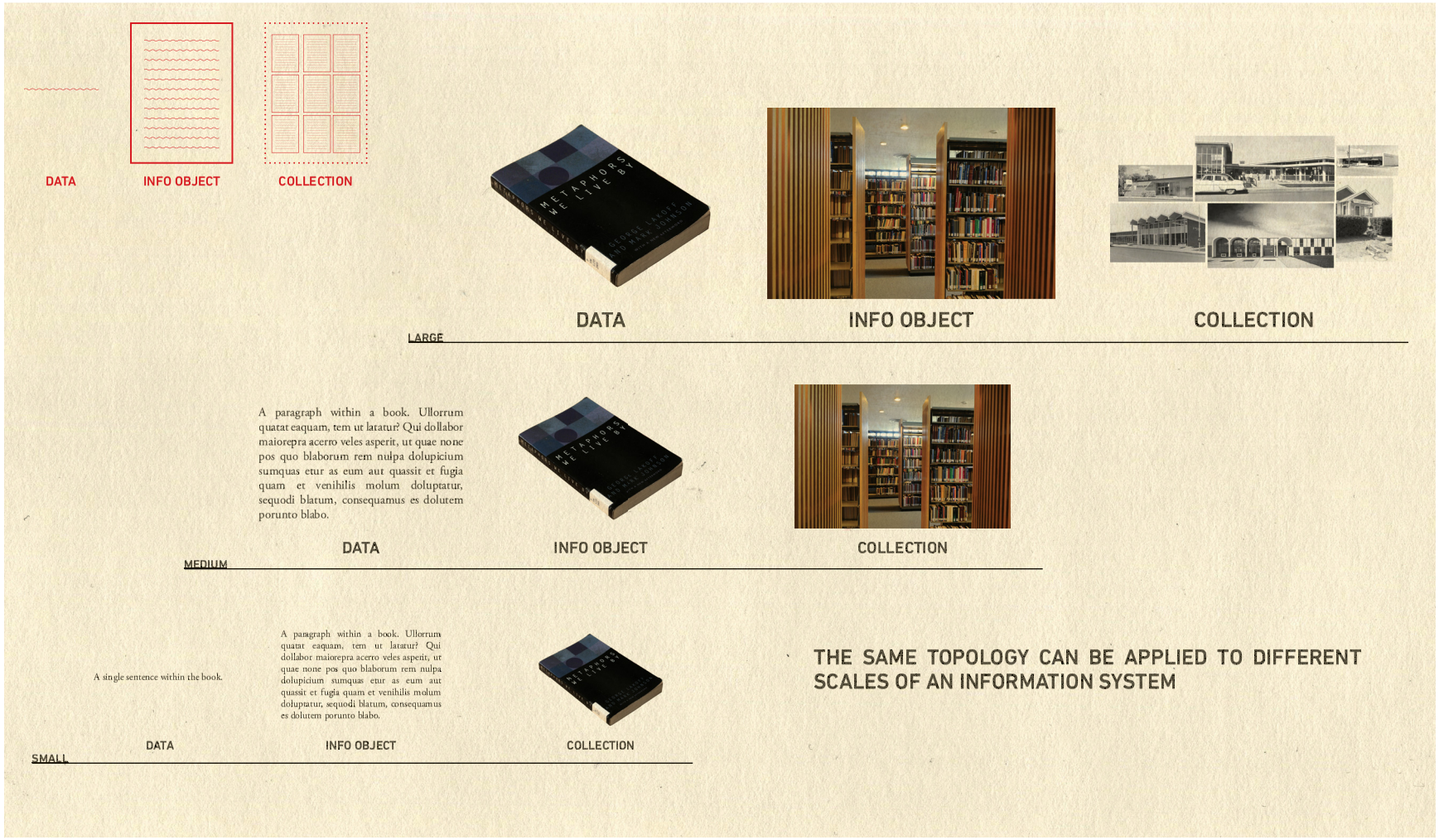
John and Patricia Patkau, Newton Library, Surrey, B.C., 2013

1.4 Framing the Collection

The rise of commercial values in the public library and the emergence of digital storage both challenge how a library frames its collection. In *The Architecture of Information,* Martyn Dade-Robertson defines a useful topology for understanding information systems, and it can be used to reveal the differences in framing between libraries and other information systems.[42] *Data* is the pure information that exists 'out there' in the world. It is meaningful to the people that interpret meaning from it, but can be considered inherently meaningless. *Information Objects* are chunks of data. Books, artifacts, songs, and films are excellent examples. As objects, they are bounded entities that contain data. *Collections* are groups of information objects. This applies to far more than libraries. As Dade-Robertson notes: "[i]n a library, an information object is a book; in a museum it is an artifact; in a hypertext it might be an individual page; and in an information-retrieval system it may be a single word."[43] This topology of DATA < INFO OBJECT < COLLECTION can be applied at different scales of information systems: PARAGRAPH < BOOK < LIBRARY is one application, but SENTENCE < PARAGRAPH < BOOK, or BOOK < BRANCH LIBRARY < LIBRARY NETWORK are equally valid. Making this tripartite distinction within an information system highlights the

42 Ibid., 20.

43 Ibid.



A topology for analyzing information systems

Examples of information objects and the ways that different collection frameworks organize them

discursive role of the frameworks that organize data into info objects, and info objects into a collection.[44]

In contrast to other systems, libraries have traditionally encouraged plurality: info objects (books) by a multiplicity of authors are shelved in non-hierarchical frameworks (bookshelves), and the resulting diversity of book spines creates a mosaic surface. A rich texture reflecting the diversity of the library's collection emerges organically. In most museums, the widely varying dimensions and cultural significance of the artifacts ensure a collection with a clear sense of hierarchy. A hierarchy becomes even clearer in bookstore collections, where retail display techniques are used to explicitly market certain texts over others. Interestingly, querying newspapers reveals a strong parallel to the library. In that system, the data is the contents of each article, the info object is the article itself, and the collection is the newspaper. Vitally, each info object has a different author, akin to the books in a library. The collection becomes a literal collection of voices, perspectives.

There are notable differences in the navigation of these information systems. In the traditional library, the patron wanders the bookshelves, browses the varied surface of book spines, and actively chooses where to focus her view. She may be guided by the call-number of a particular book that she's looking for, curiosity about the subject area she is wandering through, or simply the texture of a particular book spine. Regardless of her motivation, the rich surface challenges her to search it. Contrast this with the bookstore, where certain books are skillfully placed to quickly direct her attention—and ideally her wallet. And while contemporary newspaper layouts are dominated by advertisements that quickly direct the gaze of their readers, newspapers were once mosaics of articles demanding navigation.[45] McLuhan argues that this juxtaposition of perspectives is at the root of why the press has been important in the development of democracy.[46] Just as the newspaper presents the plurality of a single day's events, the library safeguards cultural diversity for posterity.

Commercial framing strategies gaining a foothold in the library has severe implications, as they directly undermine the institution's purpose. As Hafner and Sterling-Folker note:

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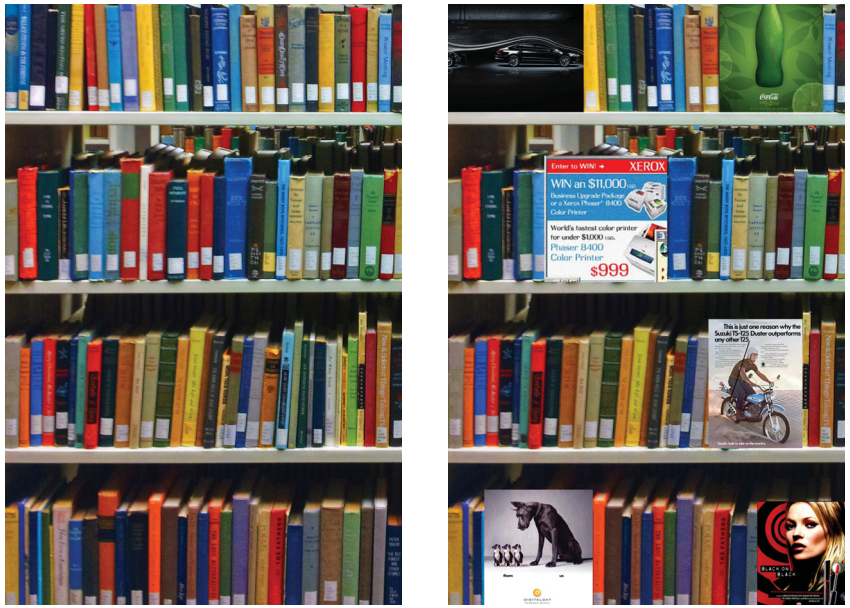
44 Ibid.

45 McLuhan, *Understanding Media,* 283.

46 Ibid., 286.



Commercial display topologies create a hierarchy between advertised items and rest of the collection by directing the viewer's gaze, preventing her from fully engaging the mosaic surface.

Page of Scientific American, 1894; from Pulp Images

Interior of the IDEA Store library, 2013; from Worpole, *Contemporary Library Architecture*

> The idea that in order to survive the library should somehow entice users to come inside the library has produced a desire on the part of library trustees, library administrators, and the library staff to shape programs, activities, and services to meet the demands and wants of the people in whatever form those demands or wants might take. The result has been a concern with marketing the library as if it were any other private entertainment business that must determine and target its potential customers and package its products accordingly.[47]

The IDEA Store and Discovery Centre libraries in the UK are two celebrated examples of the contemporary library-as-bookstore approach.[48] Yet if the display techniques of bookstores are heavily relied upon in libraries, certain authors will be championed at the expense of others, and the library inadvertently becomes an authoritative voice on what works its visitors are exposed to. That could not be further from presenting a microcosm of a diverse society and encouraging visitors to explore it.

The challenge of framing a library's digital collection is equally pressing. Digital media storage presents a surreal challenge to traditional library constraints: hundreds of thousands

47 Hafner and Sterling-Folker, "Democratic Ideals and the American Public Library," 23.

48 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering,* 317.

of books can now be stored on a one inch flash memory drive. However, these 'books' exist as files on a computer, and can only be browsed through on-screen interfaces. When libraries are considered as building-scale interfaces for browsing a collection, it quickly becomes clear what is lost when they are limited by screens. The visitor to the library browses the collection by simultaneously walking amongst it and visually scanning the shelves, whereas the computer user only uses her eyes. Full-body browsing is reduced to visual browsing alone.

The public library will not survive, let alone enhance communication, if it does not fully engage the wide spectrum of contemporary media.[49] The best qualities of its past incarnations must be reconciled with the possibilities offered by digital technologies, instead of being lost altogether. While this does mean the end of the book-library, it does not mean the end of libraries that contain books. McLuhan notes that:

> If our new media constitute so complete a range of expressiveness as both to enhance and almost supplant speech itself, then we have moved into the period of post-literacy. … Not that we are to be deprived of books any more than of ancient manuscripts. But it is plain that our new culture is not going to lean very heavily on any one means of encoding experience or of representing reality.[50]

There are a multitude of ways in which the public library can better engage with digital media and digital collections. Offering rapid production of books or other prints is one approach that is becoming popular, with cutting-edge libraries containing this production equipment. And the widespread adoption of smartphones, across all income brackets, allows for augmented-reality browsing interfaces that engage a visitor's entire body.

1.5 Case Studies

Three small libraries were chosen as case studies for the project: Rudolf Schindler's unbuilt Bergen Library (1920), Alvar Aalto's Seinäjoki Library (1965), and John and Patricia Patkaus' Newton Library (1990). These three libraries were chosen for their sophisticated formal strategies, sensitivity to the human scale, and clear public presence.

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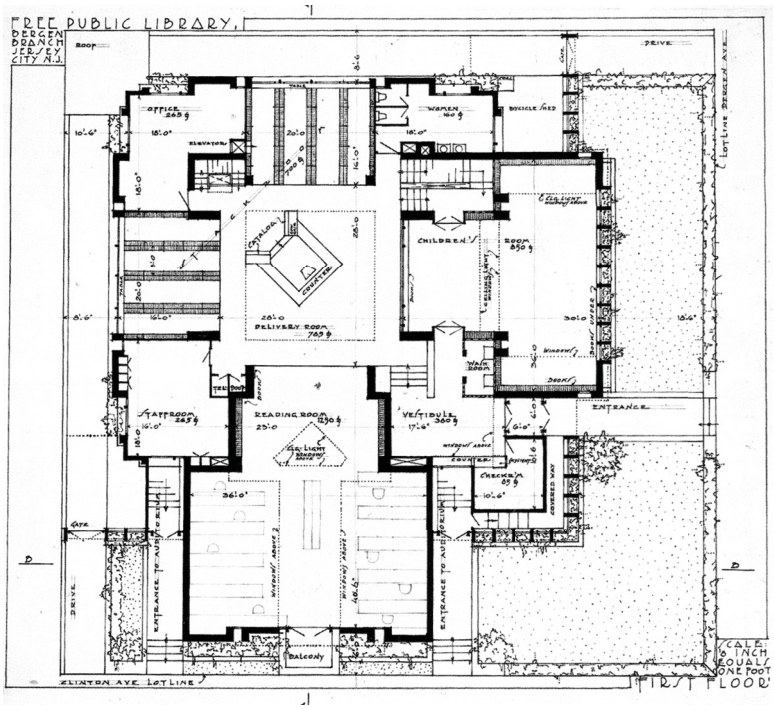
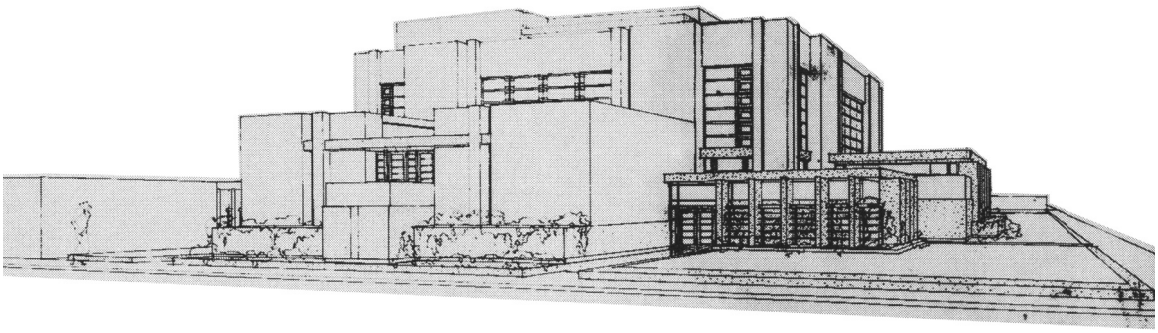
49 Rients Dijkstra and Jason Hilgefort, "The Learning Jungle," in *The Architecture of Knowledge: The Library of the Future,* eds. Rients Dijkstra and Christine Gardner (Rotterdam: NAi Publishers, 2010), 69.

50 Marshall McLuhan and Harley Parker, *Counterblast* (Toronto: McClelland and Stewart, 1969), 131.



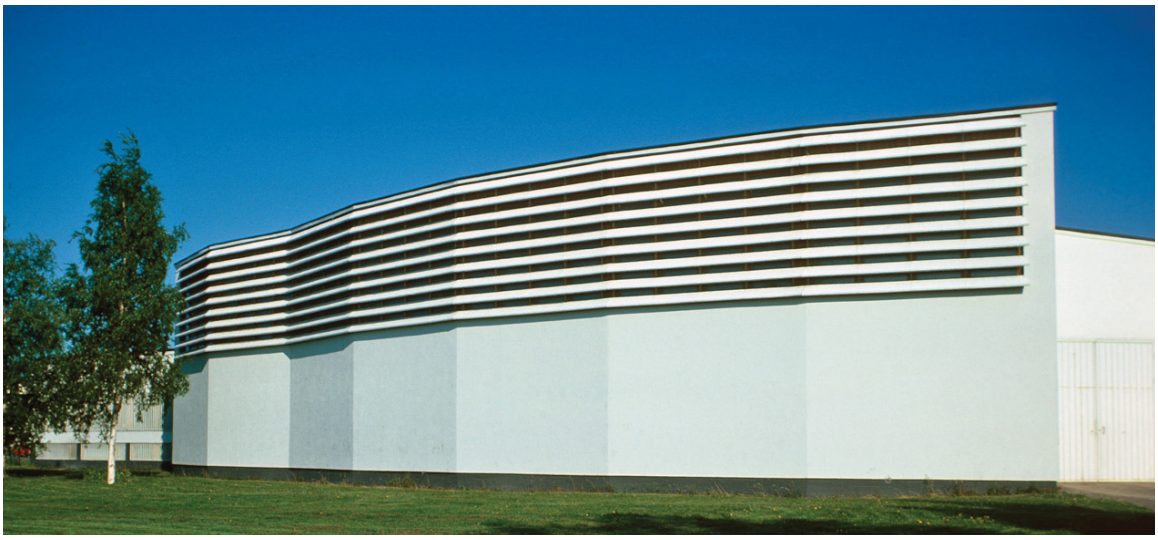
Rudolf Schindler, plan of Bergen Library, 1920; from Schindler, Smith, and Darling, *The Architecture of R.M. Schindler*



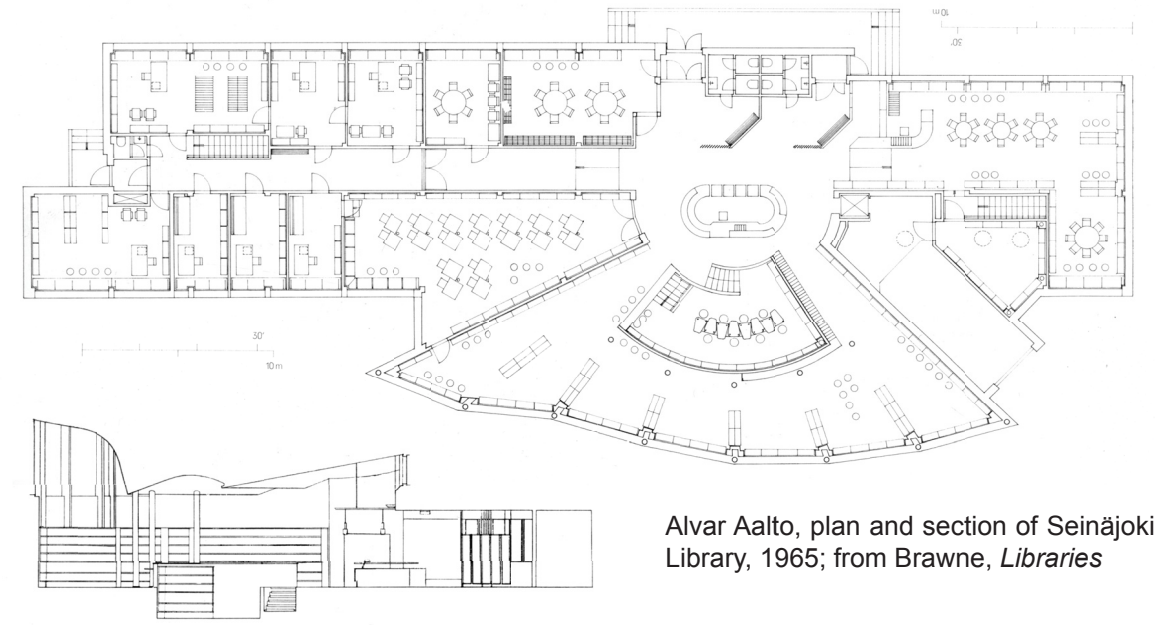
Rudolf Schindler, perspective of Bergen Library, 1920;
from Sheine, *R.M. Schindler: Works and Projects*

Bergen is a dynamic early Modernist vision of a community library. It features a very diverse program that includes an area for exhibitions, a classroom, and a games room.[51] This branch responds to its corner lot with diagonal symmetry, and maintains a connection to the dimly lit studies of the nineteenth century through a double-height space deep in the centre of the radial plan.

51 Jin-Ho Park, "Schindler, Symmetry and the Free Public Library, 1920," A*rq: Architectural Research Quarterly* 2, no. 2 (1996): 75.



Seinäjoki Library, Alvar Aalto, Finland, 1965; photograph by Larry Speck

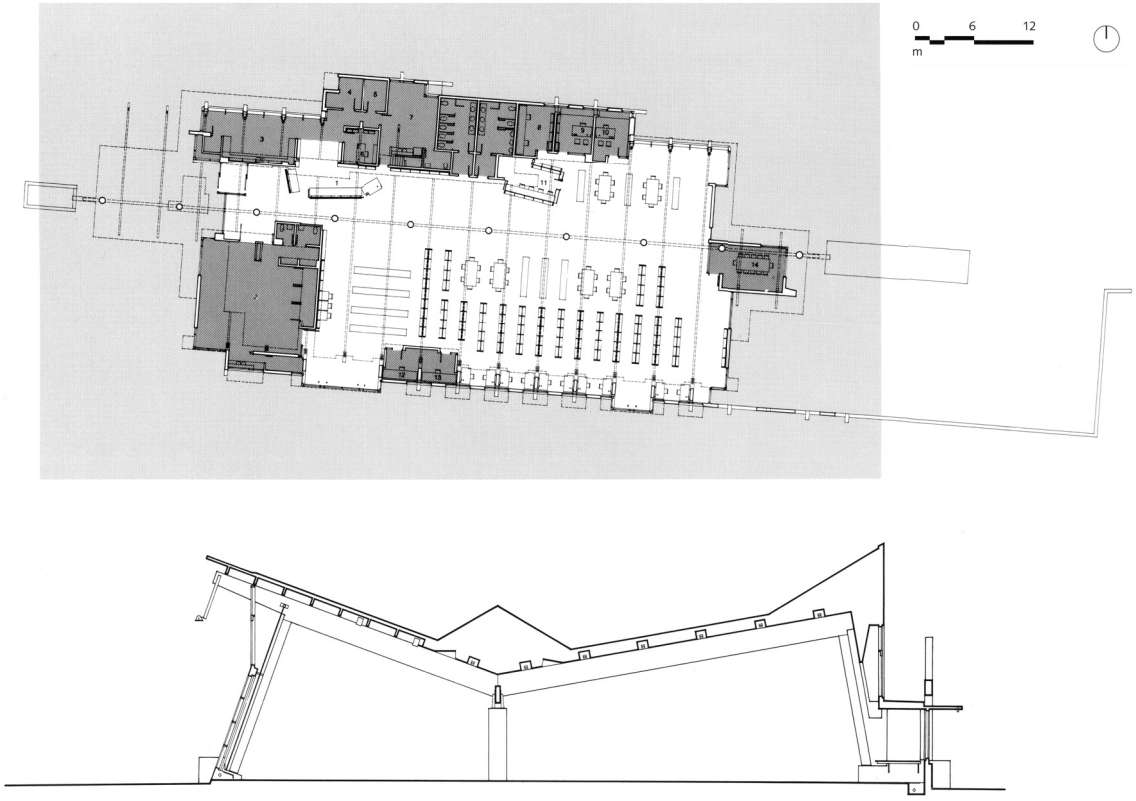


Alvar Aalto, plan and section of Seinäjoki Library, 1965; from Brawne, *Libraries*

Seinäjoki is the first of three ‘fan-and-bar’ libraries designed by Aalto in the 1960s. Ideas from his seminal Viipuri Library such as the sunken ‘book pit’ and use of diffuse top lighting define the scheme.[52] Seinäjoki completely lacks typical areas of book stacks, a very rare condition for a mid-century library. Ever the subtle classicist, Aalto has returned to the ancient idea of a large room lined with book alcoves. The building’s articulation implies the metaphor of an iceberg sitting in a field, with the main room as a cave within.

52 Göran Schildt and Alvar Aalto, *Alvar Aalto: The Complete Catalogue of Architecture, Design, and Art* (New York: Rizzoli, 1994), 112.

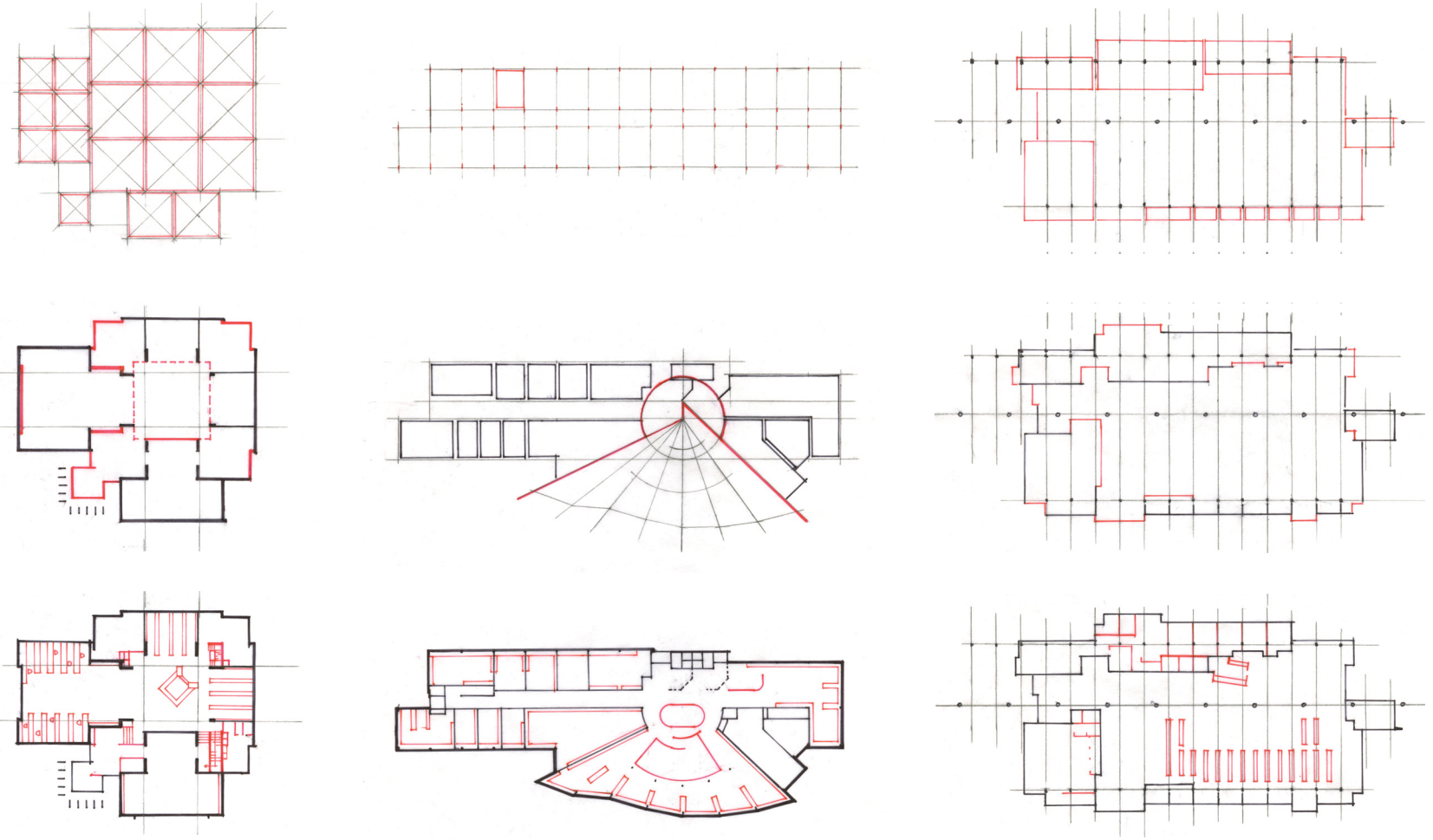
John and Patricia Patkau, Newton Library, Surrey, B.C., 2013



John and Patricia Patkau, Plan and Section of Newton Library, 1990;
from Carter, *Patkau Architects*

Newton is elegantly composed: its simple structure of concrete and heavy timber creates large spans and allows for the reconfiguration of the main space in the future, while the mechanical systems are housed between the envelope and the 'interior envelope' of gypsum on the underside of the structure.[53] The plan is a built-up periphery with an open centre for reading and browsing, echoing the larger clearing that the building sits within.

53 Brian Carter, "Civic Exuberance: Newton Library," *Canadian Architect* 38 (1993): 18.



Bergen Seinäjoki Newton

The geometric systems and processes used to compose the three libraries were analyzed. All three begin as simple configurations which are gradually articulated.

CHAPTER 2: DESIGNING THE LIBRARY FRAME

This chapter develops a prototypical frame for the design of branch libraries. While individual branches differ, they all serve the same institutional mandate. A general set of program elements is formulated, along with a topology for how the spaces can relate. The frame defines 'public library' as a place that houses a diverse mix of communication and collection spaces, and presents a rich mosaic landscape that demands to be explored. Metaphor is explicitly used to define the library frame.

2.1 Establishing an Institutional Program

The public library has developed a diverse set of program elements over its 160 years. The vast majority of spaces added to the library fall safely within the mandate of enhancing communication. Elements such as lecture theatres, meeting rooms, listening stations, children's areas, small art galleries, and 'makerspaces' (that contain small-scale production equipment) all reflect the breadth of contemporary communication.[54] Libraries now face the danger, however, of over-extending their offerings and losing sight of their institutional mandate. For libraries to withstand criticism, there must be a clear conditional statement which fences them off as particular zones, allowing them to be judged against their stated goals.[55] Working from the core mandate, I believe that if a space does not directly 'enhance communication for the public good,' or directly support this end, it is best left outside the public library. Thus, the library would be filled with places to read, watch, listen, and discuss, but not places to paint or cook. Any spatial activities that relate to communication, or to the storage and management of information, potentially have a place within the library.

From this proposition, I have established a new tripartite program distinction for libraries: communication, collection, and support. *Communication* spaces accommodate the range of discourse that takes place in the library. They span a full range of scales, from the lecture hall down to the individual study cell. *Collection* spaces are where visitors engage with the library's holdings, be they physical or digital information objects. *Support* spaces

54 Worpole, *Contemporary Library Architecture,* 88.

55 Ester Van De Wiel and Jurgen Bey, "Public Space as Public Library," in *The Architecture of Knowledge: The Library of the Future,* eds. Rients Dijkstra and Christine Gardner (Rotterdam: NAi Publishers, 2010), 44.

directly facilitate the other areas, and include rooms such as staff offices. I have identified a number of spaces for each of the three types, and while there are twelve distinct program areas (sans support spaces), I feel these are essential for the library to fully engage its mandate. The six communication areas are: Reading Room, Network Access, Lecture Hall, Children's Area, Meeting Rooms, and Private Study, and the six collection areas are Media Stacks, Catalogue Node, Circulation Desk, Lending Library, Database Navigation, and Media Embodiment.

Contemporary public libraries should engage each of these program elements in some meaningful way to serve the breadth of their purpose. As new technologies emerge and others fade, the program areas will likely change, however this tripartite distinction can remain intact. The library is a programmatically unique institution: central and branch libraries have identical building programs, save for the larger block of space that central libraries require for administrative functions. So while my proposal explores the design of a community branch, the ideas could be used to design the system's central node.[56]

2.2 Defining a Mosaic Schema

For the library to support multiple readings, its spaces can be brought together as a multistable mosaic. Multistability results from an image (or other experience) lacking a single, stable figure/ground relationship, and these perceptual experiences demand multiple readings.[57] The mosaic surface of book spines on a shelf reflects this phenomenon. At any given moment the viewer will be looking at one spine as figure, and all other spines as a textural ground. Speaking of one such experience, McLuhan notes how:

> Figures rise out of, and recede back into, ground, which is con-figurational and comprises all other figures at once. For example, at a lecture, attention will shift from the speaker's words to his gestures, to the hum of the lights or to street sounds, to the feel of the chair or to a memory or association or smell. Each new figure in turn displaces the others into ground.[58]

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56 The public library also has a third scale: the micro-library. Bookmobiles are a classic example, and Edmonton currently has a vending machine for library borrowing at a main transit station. While the design of micro-libraries is beyond the scope of this thesis, existing micro-libraries imply how particular program elements can be built as stand-alone structures.

57 William Lidwell, Jill Butler, and Kritina Holden, *Universal Principles of Design: 100 Ways to Enhance Usability, Influence Perception, Increase Appeal, Make Better Design Decisions, and Teach Through Design* (Gloucester, Massachusetts: Rockport, 2003), 80-1.

58 Marshall McLuhan and Eric McLuhan, *Laws of Media: The New Science* (Toronto: University of Toronto Press, 1988), 5.

As already noted, mosaic framing is ideal for objects in a library collection, and it can also be used to frame the relationships between the different program areas in the building. It is instructive to define the set of relationships true of all mosaics so that they can be applied to the design:

1. Every mosaic is a whole composed of distinct parts. In a visual mosaic the parts could be tiles on a wall, book spines on a shelf, or fragments of photographs used in a collage. In an acoustic mosaic, the parts could be different conversations occurring in the same space.

2. The parts are distinctly individual, but all fit the same prototype. This prototypical aspect provides the degree of similarity that permits multistability: no single element can overpower the others.

3. A consistent framework orders the parts into a whole. Aerial images of cities are mosaics because lot lines and building restrictions provide a consistent framework for the individual buildings executed within.

If these elements are in place, the parts and whole will exist as a multistable figure/ground relationship, where parts emerge and recede from a ground composed of all other parts.

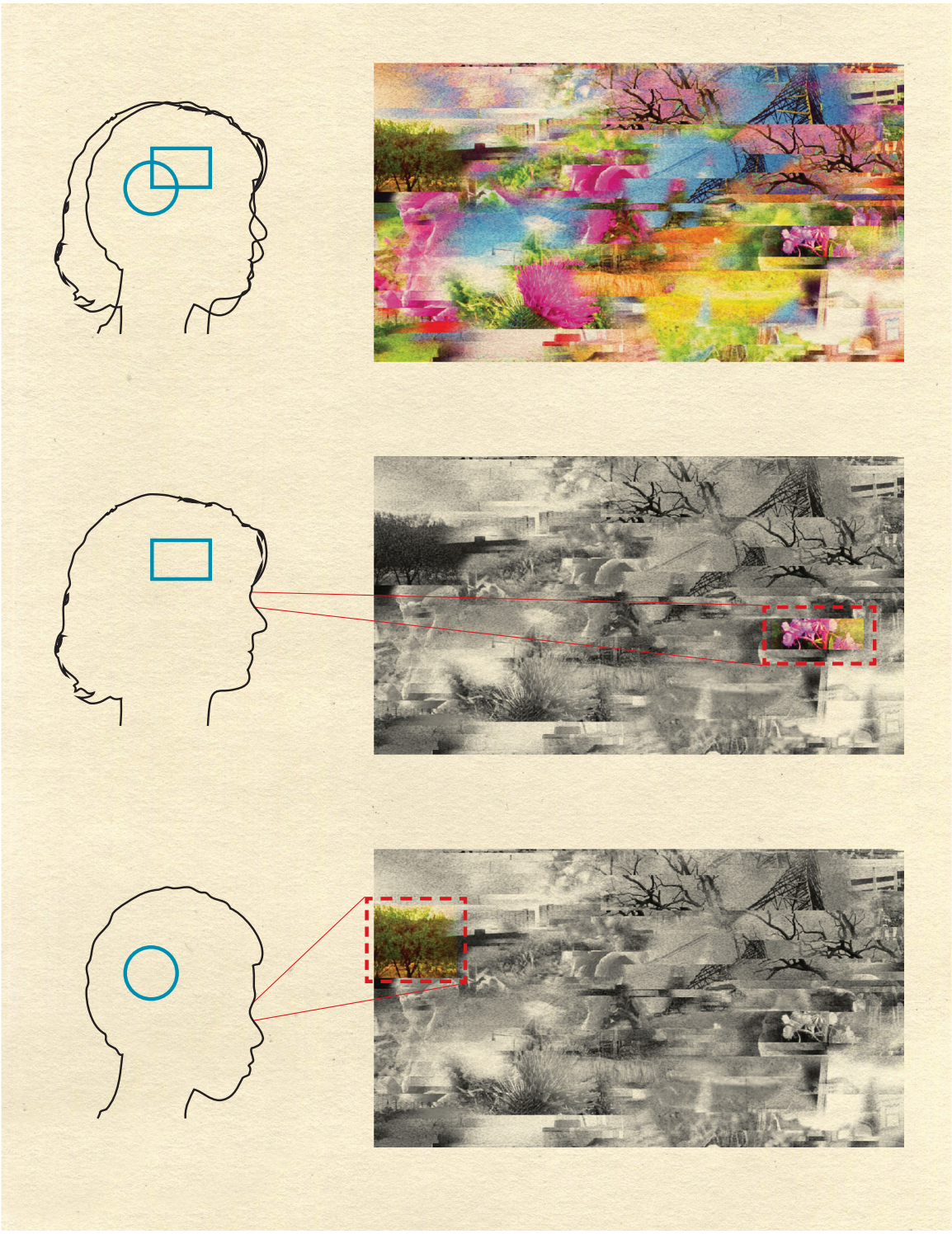
2.3 Program Topology

Following the mosaic schema, I propose to unite the diverse spaces of the library through the metaphor of a community. Although each room is individual, they gather into a community with the shared goal of enhancing communication. Membership in this community allows the individual rooms to strengthen each other in their shared purpose while maintaining their own identities.[59] Shifting this into an explicitly architectural metaphor, the library becomes a village of houses built of the same materials but articulated differently, reflecting their inhabitants. The entire composition is clearly formed of distinct parts, and the distinct parts clearly belong to a whole.[60] This relationship holds up equally well in the case of books on a shelf. The richness of a community, be it of people, buildings, or books, results from

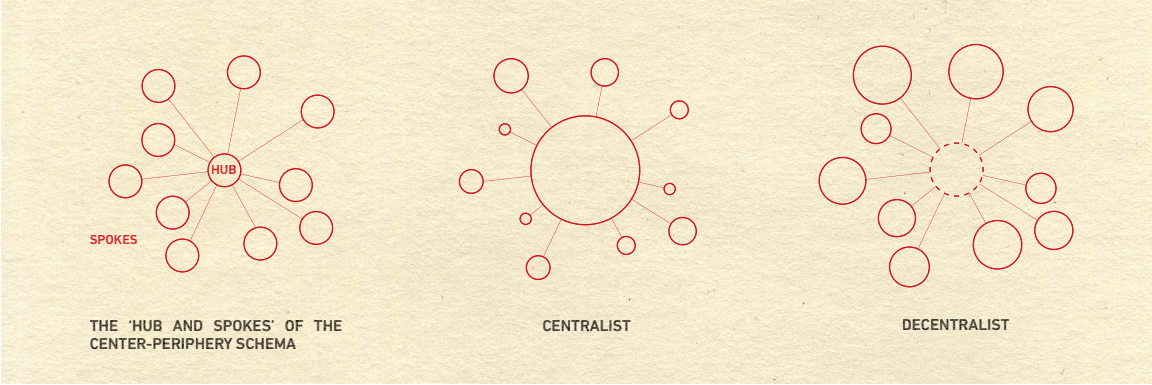
59 Aldo van Eyck, Vincent Ligtelijn, and Francis Strauven, *The Child, the City and the Artist: An Essay on Architecture: The In-Between Realm* (Amsterdam: SUN, 2008), 54.

60 Ibid., 60.

The relationships that define a mosaic schema



Dynamic mosaic images force viewers to actively participate in the process of deriving meaning. Since no one figure dominates, the viewer is forced to actively direct their attention. The viewer's own mental frames will guide their choice of what to look at, ensuring readings as diverse as the people viewing the mosaic.



The hub and spoke topology

the figure/ground interplay between individual and collective forms. The library gathers a community around its collection, and its spaces can be designed as an equally powerful gathering. In the library, the space of media shelves and casual reading is an ideal focal point for the other program areas to encircle. That space becomes the metaphoric village square, and a very literal public space in the neighborhood.

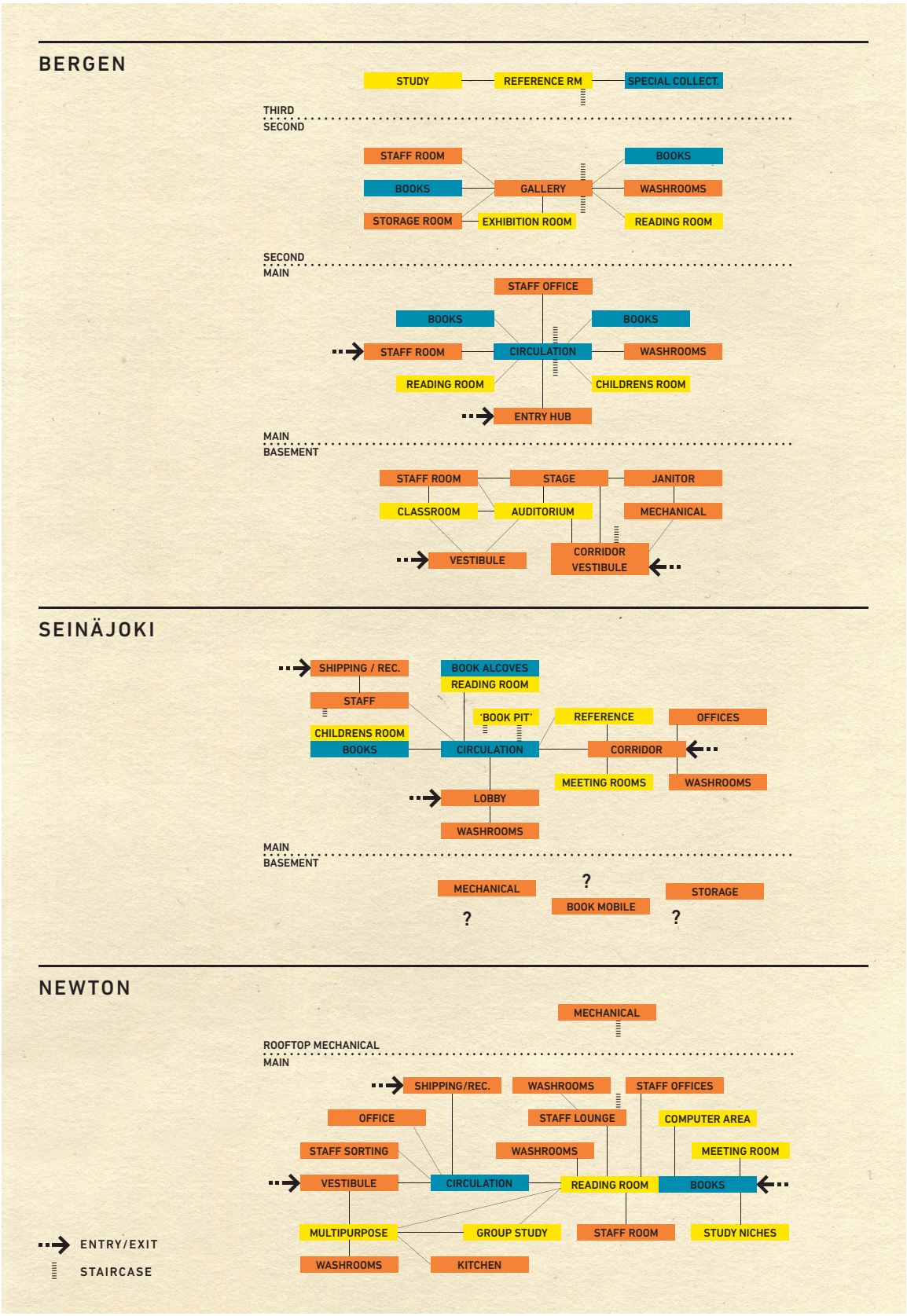
Within this system, maintaining a lack of hierarchy between the program areas is vital: to prize any one space over all others is to prize the form of communication it supports. Giving book spaces that primary role was sensible in the nineteenth century, but clearly is not in the twenty-first. Text, image, moving picture, and sound are all used extensively and in a variety of combinations. Maintaining a (relatively) flat hierarchy in the plan allows the building to be read as a mosaic of places.

The metaphor of houses gathering around a village square begins to imply a radial plan topology, and that form has a strong history in libraries. Supervision has long been a primary concern, and this resulted in centrally located circulation desks with views over the rest of the library.[61] Most program areas in the public library desire a location reasonably near the entry, and so one method of addressing this is to have visitors enter a central area and proceed to other program elements on the periphery. In the field of web design this is called a 'hub and spoke' topology, and it is a very common instinctive way that people navigate websites.[62] This is unsurprising, as it relates back to Johnson's notion of embodied schemata, the structure of CENTRE-PERIPHERY being universally understood.[63]

61 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering*, 51-2.

62 Dade-Robertson, *Architecture of Information,* 84.

63 Johnson, *Body in the Mind,* 124-5.



Plan topology diagrams of the case studies. A basement plan for Seinäjoki was unable to be located.

Parallel to this analysis, I mapped out the topologies of the three case studies, and all were approximations of this hub and spoke model. In Bergen, that meant that each floor of the building was a hub and spoke with a central staircase connecting the hubs. In the case of Seinäjoki, the hub point exists in the main room, but it is also extended into a line that all other rooms are built off of. Newton has a densely articulated periphery with an ambiguous central reading and book area, fitting the 'clearing in the forest' concept of the design.[64]

At the scale of a branch, a hub and spoke program arrangement is ideal. It significantly eases navigation by giving visitors an element to orient themselves to, historically the circulation desk. While there were once panoptic connotations to this plan, the existence of CCTV cameras ensure that patrons will be under surveillance no matter the plan configuration. This development in surveillance also allows libraries to contain small alcove spaces ideal for quiet reading, spaces that were once eliminated in order to maintain a high degree of visibility from the central desk.[65]

2.4 The Concept of Retrieval

While researching the history of public libraries and proposing a universal set of program elements, Marshall McLuhan's concept of retrieval was vital. Late in his career, McLuhan synthesized much of his work on communications media into an interpretive device of four questions that could be asked of any technology. The questions of what a technology enhances and what it obsolesces are commonplace. However asking what aspects of forgotten technologies are *retrieved* through a new one, and how a technology *reverses* into something else when pushed to an extreme, remain novel.[66] The concept of retrieval argues that every new media brings back some element of a technology that was once in use but had been discarded. [67] In McLuhan's terms, some element deep in the cultural ground has emerged as a figure. Retrieval is not simply reviving a discarded technology in its entirety; the new technology is suited to the different world it has been developed for.[68]

The invention of radio is a good example of retrieval. In ancient times, leaders would be

64 Carter, "Civic Exuberance," 18.

65 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering*, 51-2.

66 McLuhan and McLuhan, *Laws of Media,* 98-9.

67 Ibid., 227-8.

68 Ibid., 101.

able to communicate to all of their subjects orally; the village chief would give a rousing speech. With the establishment of empires this no longer became possible, and written decrees became a vital way that a leader would address his subjects. Radio changed all of this: the president could now have ‘fireside chats’ with his nation, and the dictator could passionately rile against his opponents. The importance of oral communication was violently retrieved from the distant past.

This concept framed my historical research, and I was constantly looking for discarded paradigms from historic libraries that might warrant retrieval. From this I discovered that two discarded program areas had already been subtly retrieved: the Lending Library and the News Room. The purpose and patterns of use of these spaces closely match the patterns of the contemporary ‘hold pick-up’ area and internet access area.

2.5 Program Areas

Understanding the library’s program areas on their own terms helps to ensure that each area contributes a distinct presence to the whole. I developed a matrix of areas that highlights their spatial requirements, orientation (in-out-up-down), and the potential metaphors that they can be understood and shaped by.[69] I also developed icons that highlight a key characteristic of each area. Many of the spaces are intended to be executed in line with contemporary approaches, however the emergence of computer technology is an impetus for significant revision and enhancement of some areas, as well as the addition of new ones. It should be noted that a significant number of program areas within the library can exist at a variety of sizes; simply add more desks and more bookshelves and the program area expands. This scalability complicates establishing a numerically rigorous, generalizable program for the institution.

2.5.1 Communication Spaces

2.5.1.1 Reading Room

The defining space of the public library remains the reading room intermingled with book stacks. The reading room is transitional, since reading (and listening, and watching) are

69 Ayub Khan, *Better by Design: An Introduction to Planning and Designing a New Library Building* (London: Facet, 2009), 16,121,127.

activities that take the reader inwards, out of their present location and into the text. An area that supports this provides visitors with a plethora of places to read that offer varying degrees of enclosure and lighting levels to match the readers' varied conceptions of a 'safe space' to dive into a text. Curling up to watch a film on one's tablet might require a dark niche, while listening to music may be better accompanied with a view out to a garden.

The reading room also holds the frequently borrowed items in the library, however the shift towards digital media makes it difficult to predict the degree of physical borrowing in the future.[70] Assuming some degree of it, contemporary technology opens the potential for an exciting evolution of the reading room. In their article "The Learning Jungle," Rients Dijkstra and Jason Hilgefort argue how the use of RFID tags (Radio Frequency IDentification) in library items could allow for a radical organizational model for the collection, where users can freely re-arrange items within the space of the library. They note how vibrant self-organized patterns would likely emerge, granting librarians significant time savings.[71] If a user was looking for a particular text, he could track it using his smartphone (or a device provided by the library), and so looking for a book becomes a game-like task of navigating the building by following a compass.[72] The likelihood of chance encounters with other texts—or people—exponentially increases. Dijkstra and Hilgefort also speak of 'micro shelves' that could accommodate the variety of media types present in the library, while allowing the collection to be arranged in a far less rigid manner.[73] Fundamentally, they note that the character of this new reading room:

> …could take many forms, ranging from a series of random piles of books to a more traditional layout. But the desired quality is that of a park environment with assorted media lying about. Users may chat, lounge, read, listen, and amble freely amongst knowledge and each other.[74]

2.5.1.2 Lecture Hall

The lecture hall adds the communal viewing mode to a number of media within the library. While books are read alone, films, music, oration, and videogames can all be experienced

70 Libraries will almost certainly contain some physical books, since the printed book is a different technology than other ways of engaging with texts such as e-readers.

71 Dijkstra and Hilgefort,"The Learning Jungle," 69-70.

72 Ibid., 69.

73 Ibid., 72.

74 Ibid.

READING ROOM

AREA: 30 sqft / reader **ORIENTATION:** IN to the Reader and Text
METAPHORS: Living Room | Learning Factory | Forest

NETWORK ACCESS

AREA: 250 sqft min. **ORIENTATION:** OUT mediated through IN
METAPHORS: Computer Room | Borges' Aleph | Kitchen Table

LECTURE HALL

AREA: 10 sqft / seat **ORIENTATION:** Towards the Performance
METAPHORS: Cave | TV Room | Amphitheatre

CHILDREN'S AREA

AREA: 10 sqft / reader **ORIENTATION:** Variable
METAPHORS: Kids Living Room | Landscape | Storytelling Circle

MEETING ROOMS

AREA: 150 to 350 sqft **ORIENTATION:** IN to the group
METAPHORS: Kitchen | Campfire | War Room

PRIVATE STUDY NICHES

AREA: 30 sqft / carrel **ORIENTATION:** IN to the Text, glimpses OUT
METAPHORS: Monk's Cell | Home Office | Cave

Communication program areas

in a group, and the library can facilitate communal engagement with them. The hall also provides a secular assembly space for its neighborhood, and can serve as a place to hold governmental events such as political debates.

2.5.1.3 Network Access

The network access area plugs library patrons into the global human network in the present instant. This is the core function of the banks of internet-connected computers in libraries now, and it was also the core function of the nineteenth century News Room. Job hunting was a primary use of the News Room, and for lower income library users this remains an important service.[75]

> …through its layout, furniture, fittings and ambiance, the [nineteenth century] newspaper/ magazine reading room, the most popular department in the public library, offered access to the news, current affairs and popular culture in a speedy and functional fashion, in settings that were quiet and (often) aesthetically pleasing in comparison with many working-class homes – in many respects reading rooms were the internet broadband of their day.[76]

This area retrieves the 'reading slope' configuration of the news room through large digital touch screens placed around the perimeter, allowing multiple users to gather around a single news article or video clip. While this browsing is quite public, private internet access has been the primary use of library computers, and this can still be offered through tablets tethered to reading tables. Instead of many computer monitors blocked by the heads of their users, this space captures the essence of "a 'public sphere' space symbolic of a democratic society in which rational debate [is] tolerated and encouraged," just as it did in the News Rooms of old.[77]

2.5.1.4 Children's Area

The children's area is a vital provision: libraries contain a culture's collective memory, and children, as new members of a culture, have much to learn. This zone empowers them to contextualize their world. Early children's libraries were designed as safe havens for lower class youth to spend time learning, away from the turmoil in other parts of their lives, and many neighborhoods would still benefit from a safe public space away from home.[78]

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75 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering*, 57.

76 Ibid., 345.

77 Ibid., 59-61.

78 Ibid., 245.

Collage of the network access area

2.5.1.5 Meeting Rooms

Meeting rooms give groups of many sizes a private area to work, beyond the prying eyes and ears of completely public areas. These rooms can be shared between library visitors and staff, and some could be booked in advance to ease potential conflicts.

2.5.1.6 Private Study

The private study niche is developed out of the monk's carrel: it provides an intimate space for an individual to engage in solitary study, with all of the materials for that study within arm's reach (an easy paradigm to achieve in the age of portable computing). These spaces benefit from a strong sense of enclosure, and a reasonable degree of acoustic and visual privacy.

2.5.2 Collection Spaces

2.5.2.1 Media Stacks

The media stacks contain the bulk of the branch library's physical collection. While these can be incorporated into the reading room, they can also be located elsewhere in a dense configuration more reminiscent of academic libraries. This offers the more 'traditional' library browsing experience of being in "a labyrinth or bibliographic maze."[79]

2.5.2.2 Circulation Desk

While the circulation desk has panoptic undertones, it allows visitors to easily orient themselves in the space. Large central libraries are abandoning it in favour of decentralized help desks, however this element remains ideal at the scale of a branch.

2.5.2.3 Catalogue Node

Catalogue nodes placed throughout the library allow patrons to browse the catalogue in order to find information on the objects they are seeking. They function as signposts for navigating the collection and the building as a whole.

2.5.2.4 Lending Library

Before the switch to open access libraries around 1900, the Lending Library was an area within the building dedicated solely to lending books. Patrons would browse the catalogue, find a book title, have staff fetch it for them, then leave the building with book in hand. The lending library has been quietly retrieved in recent years in the form of the 'hold pick-up' area. A significant amount of library borrowing now takes place by users searching for an item online, having it delivered to a nearby branch, and then picking it up from a special shelf there. These borrowers often do not visit the library to read, but instead walk in, pick up their hold, and leave. Functionally, this is almost identical to the Victorian lending library.[80]

With the invention of book retrieval vending machines, there is potential for a 'lending library in a box' that allows users to swipe their library card and have the machine retrieve

79 Worpole, *Contemporary Library Architecture,* 93.

80 Black, Pepper, and Bagshaw, *Books, Buildings and Social Engineering*, 213.

CATALOGUE NODE

AREA: 20 sqft / node **ORIENTATION:** IN and OUT
METAPHORS: Map | Crossroads Sign | Lookout

CIRCULATION DESK

AREA: 150 - 250 sqft **ORIENTATION:** OUT; Panoptic
METAPHORS: Panoptic Eye | Forest Clearing | Command Post

MEDIA STACKS

AREA: 10-15 books/sqft **ORIENTATION:** Infinity
METAPHORS: Maze | Arcade | Basement

LENDING LIBRARY

AREA: 200 - 400 sqft **ORIENTATION:** OUT
METAPHORS: Mailbox | Retrieval Machine | Collection of Desires

DATABASE NAVIGATION

AREA: 300 sqft / pod **ORIENTATION:** Infinity
METAPHORS: Book Stacks | Window | Corridor

MEDIA EMBODIMENT

AREA: 300 sqft min. **ORIENTATION:** UP and DOWN. Between
METAPHORS: Garage | Workshop | Womb

Collection program areas

their hold.[81] The machine could be located adjacent to an entry vestibule, allowing visitors to pick up their holds regardless of whether the library is open.

2.5.2.5 Media Embodiment

The media embodiment area empowers visitors to create physical prints of their favorite works in a variety of media. Creating a physical print of a text, photo, song, or film allows a user to experience it on another level, while greatly increasing the text's chance of long-term survival. Just as a printed book is one 'print' of an ephemeral digital text, a vinyl record is one 'print' of a digital audio file. By facilitating the printing of media objects, libraries can help fragments of the digital collection gain a physical form. Visitors can also have physical texts in the public domain scanned, creating digital copies for the database.

This strongly aids media preservation, and the history of libraries getting destroyed in times of conflict implies that the physical prints are more likely to survive for posterity in their owners' basements than in the library.[82] Libraries have already started purchasing production equipment such as book printing machines and 3D printers, however the media embodiment area has a slightly different focus than the 'makerspaces' showing up in innovative libraries now. [83] Its primary emphasis is on preserving and translating media, not on helping patrons create new works.

2.5.2.6 Database Navigation

The database navigation area is a room-scale interface for browsing the digital collection. As libraries begin building vast digital collections, a simple computer terminal is an insufficient means of navigating and engaging with the database. Browsing in pre-digital libraries takes place through walking as much as through looking, and this experience of full-body browsing should not be lost.

Computer interfaces are constructed around spatial metaphors such as physical objects sitting on a desktop, and this makes them quickly intelligible to users as a result.[84] The

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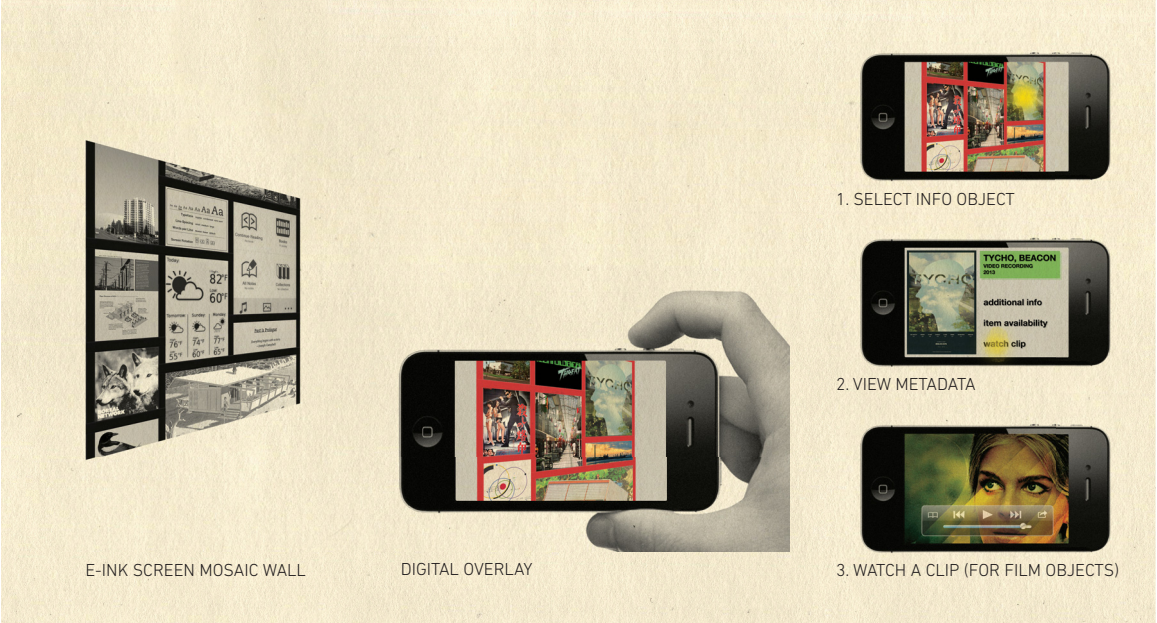
81 MacEwan University, "EPL Lending Machine now at MacEwan University" (video), 2013, *YouTube,* http://www.youtube.com/watch?v=T5KbHK4f9gw.

82 Battles, *Library,* 31.

83 Charlebois, "Edmonton Public Library's New Makerspace."

84 Dade-Robertson, *Architecture of Information,* 70.



The process of augmented reality browsing in the database navigation area

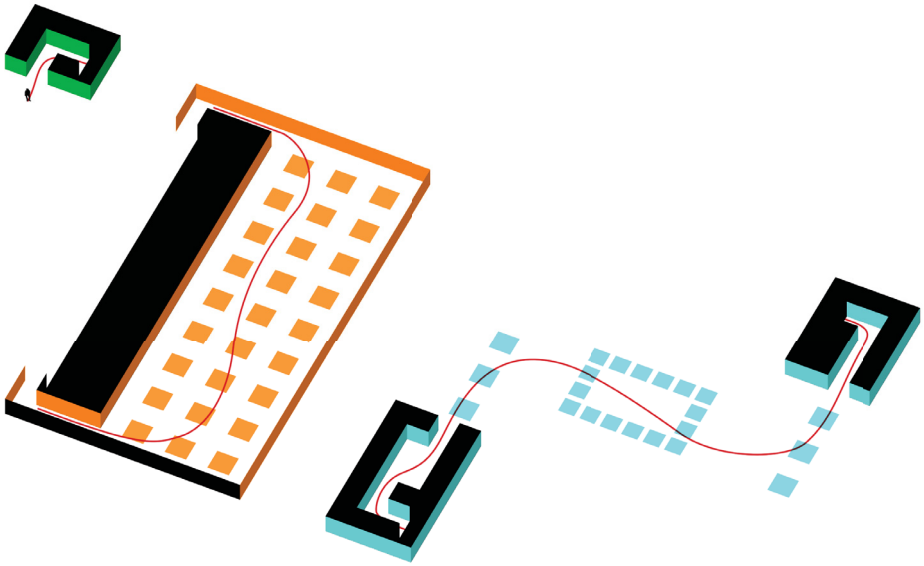
interface I have designed is grounded in the metaphor of library bookshelves, which users intuitively know how to browse. The interface exists as both a physical manifestation and an augmented reality one, accessible through visitors' smartphones. The physical manifestation of this interface is a mosaic surface built from e-ink displays, where each tile in the mosaic contains some metadata about an information object. The entire mosaic can be curated for short periods of time, and changed every day, week, or month, showing a new slice of the database.

The augmented reality half of the interface allows patrons to view a personalized search overlaid on the physical space (as viewed through their smartphone).[85] While this system would allow any physical space to have a digital overlay, the size of the digital bookshelf would still be constrained by the size of the physical bookshelf. The experimental videogame *Feign* provided an insight for moving beyond that constraint.[86] In *Feign,* the player takes a long walk through a sprawling labyrinth, but unbeknownst to her, this walk only takes place on a small patch of ground. The experiential path is far larger than the Cartesian coordinates that the player is traversing. This is achieved through implicit 'gating' moments where the player teleports from one Cartesian point to another without realizing it.

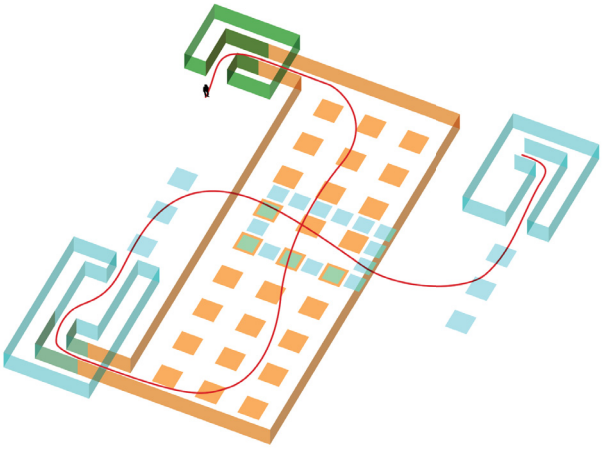
85 Ibid., 142.

86 Ian Snyder, "Feign," 2010, http://ian.janasnyder.com/feign_2.html.

Experiential path

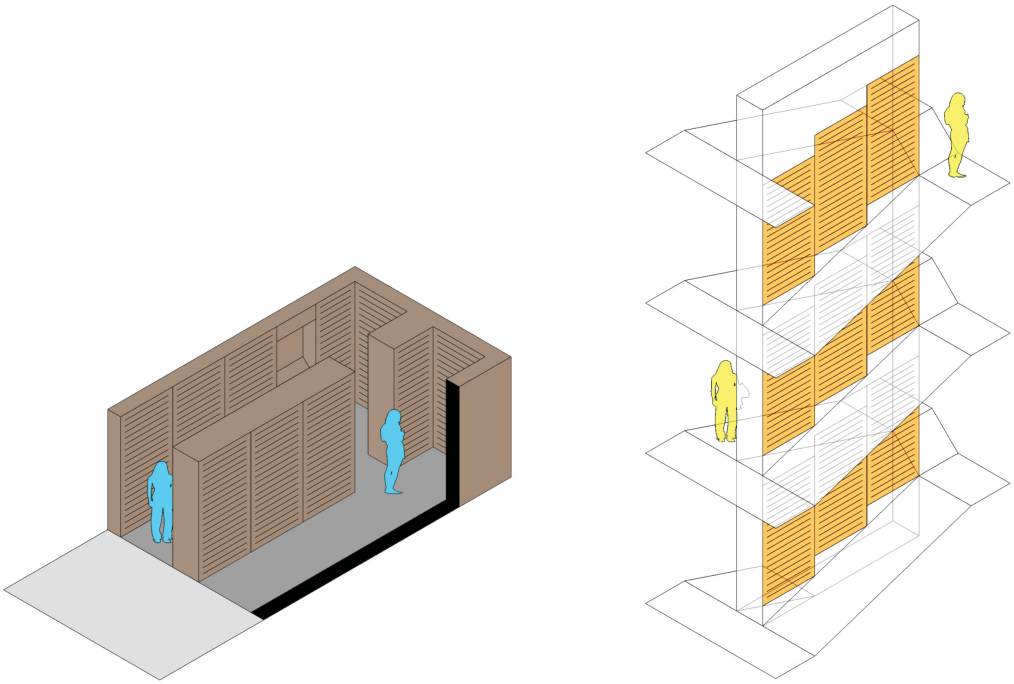


Cartesian path



The first three areas of Feign represented as perceived by the player, and the same areas represented using their Cartesian coordinates. The player exists in multiple spaces at once, but only perceives one at a time.

The database navigation interface is based on the metaphor of an infinite spiral tower. The person browsing walks a rectangular path around the bookshelf-shaped mosaic interface, yet as she walks in a rectangle in the physical space, she is walking a spiral path in the digital realm. Walking clockwise ascends the tower, and walking counter-clockwise descends it. When she views the mosaic through her phone, it is augmented with the ‘wall’ of that part of the tower. A user can enter a search word into the database, and that search



Physical space

Digital space

The database navigation interface. Walking in a loop around the central mass in the physical space maps onto walking up or down a digital spiral. User can view the walls of the digital space through their smartphones, and walk up and down the spiral indefinitely.

can generate a tower for her to physically search. The real power of this interface is that a user can walk 20 circles and see new things on each pass; a small physical area allowing for a long walk. Because the 'window' between the user's eyes and the digital world is a smartphone, multiple browsers can use the system at once. This interface allows for a rich navigational experience within the database, far beyond anything possible sitting in front of a screen.

2.5.3 Support Spaces

The support spaces contain things such as staff workrooms and offices, mechanical rooms, server rooms, washrooms, and more recently, food service elements like cafes. [87] These areas all exist to explicitly serve the other spaces of the library.

87 Worpole, *Contemporary Library Architecture,* 95.

ENTRY HUB

AREA: Varies **ORIENTATION:** Static; OUT to other places
METAPHORS: Domestic Entry Hall | Crossroads | Village Square

MECHANICAL/SERVERS

AREA: Varies **ORIENTATION:** OUT
METAPHORS: Domestic Furnace Room | Heart | Mind

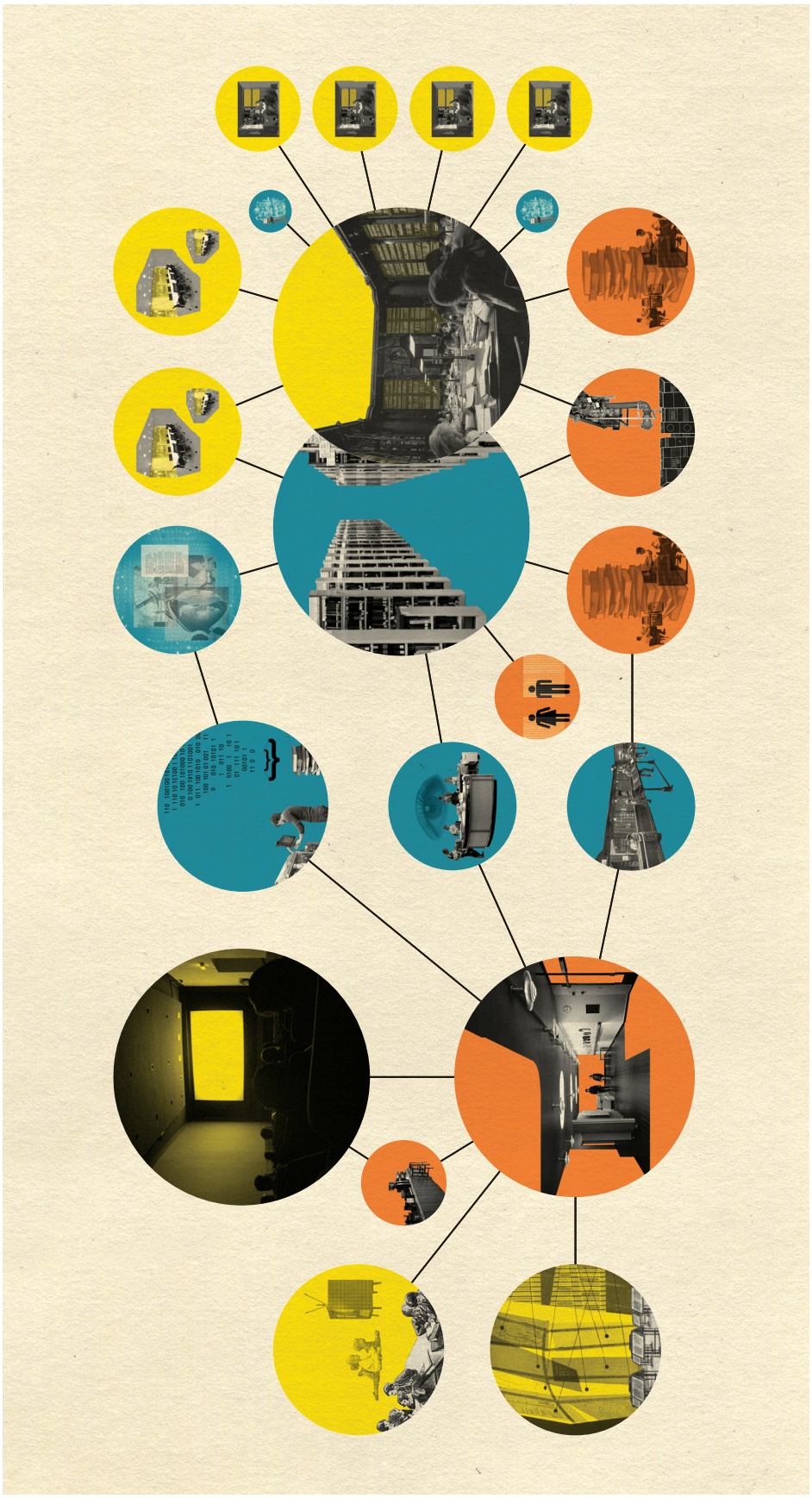
STAFF AREAS

AREA: varies **ORIENTATION:** IN to the library and tasks at hand
METAPHORS: Home Office | Backstage | Sorting Machine

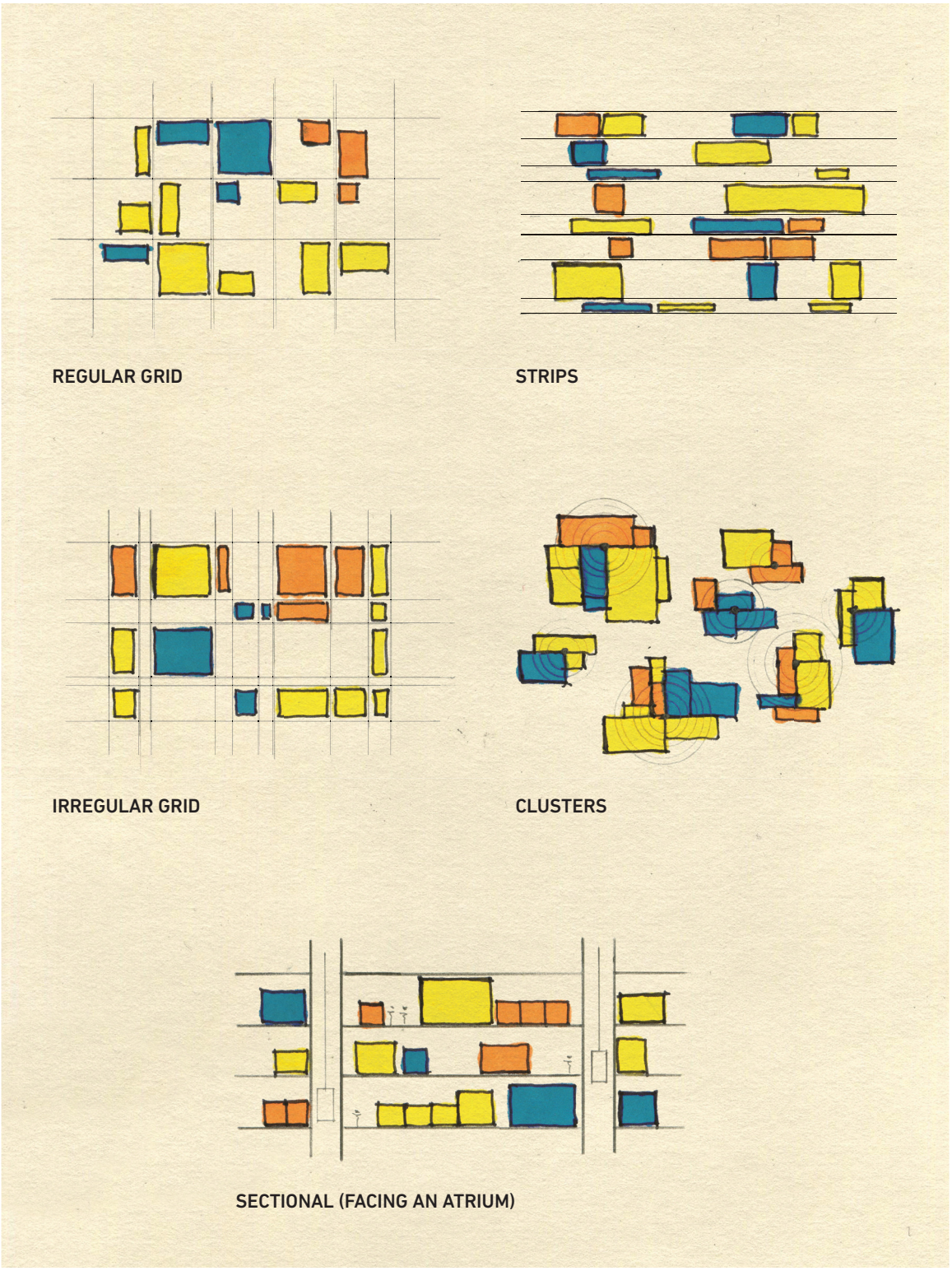
CAFE

AREA: 100 sqft min. **ORIENTATION:** OUT
METAPHORS: Kitchen | Village Well | Meeting Hall

Support program areas



One possible arrangement of the program areas in a hub and spoke configuration.



Mosaic program strategies

CHAPTER 3: DEPLOYING THE PROTOTYPE

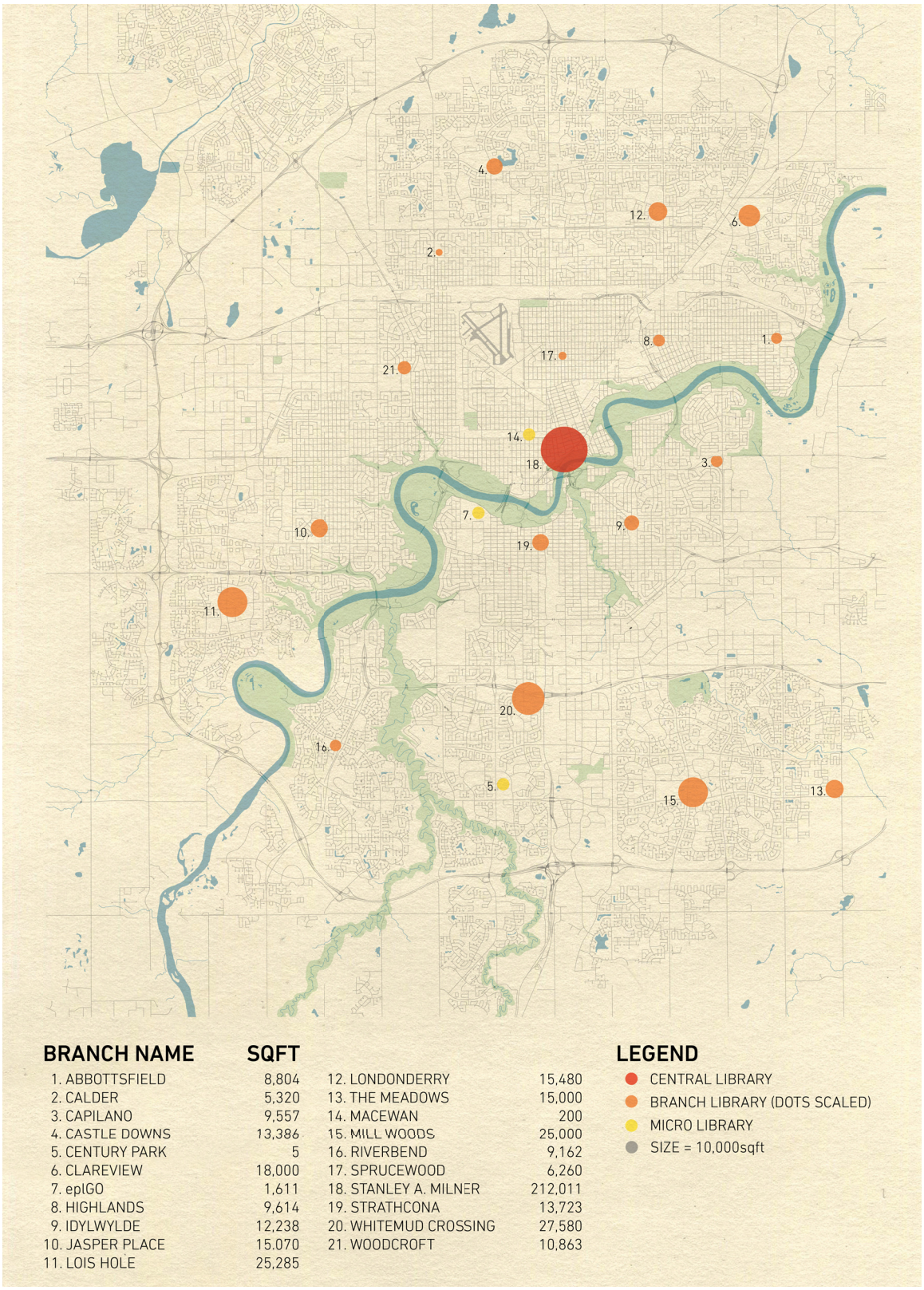
Existing Sprucewood branch, Edmonton, Alberta, 2013

This chapter explores the design of a particular branch library based on the prototype. It begins with an analysis of the chosen site, followed by a look at how the ideas within the prototype drove the design of the branch. It concludes with an analysis of the building as designed, positing some of the readings that visitors may derive from it.

3.1 Site

3.1.1 Alberta Avenue

The site for this thesis is located in Edmonton, Alberta. This prairie city of approximately one million inhabitants boasts a thriving public library network with a rich history almost as long as the city itself. The branch library design is a replacement for the small Sprucewood Branch in the Alberta Avenue neighborhood, directly north of the city's downtown core. Instead of proposing a new node in Edmonton's library network, I felt that shoring up a neglected one was a strong strategy. Alberta Avenue is one of the city's inter-war neighborhoods, and while primarily composed of single family homes, its urban fabric is far denser than many neighborhoods built later. Describing the neighborhood, Todd Babiuk notes that:



BRANCH NAME	SQFT		
1. ABBOTTSFIELD	8,804	12. LONDONDERRY	15,480
2. CALDER	5,320	13. THE MEADOWS	15,000
3. CAPILANO	9,557	14. MACEWAN	200
4. CASTLE DOWNS	13,386	15. MILL WOODS	25,000
5. CENTURY PARK	5	16. RIVERBEND	9,162
6. CLAREVIEW	18,000	17. SPRUCEWOOD	6,260
7. eplGO	1,611	18. STANLEY A. MILNER	212,011
8. HIGHLANDS	9,614	19. STRATHCONA	13,723
9. IDYLWYLDE	12,238	20. WHITEMUD CROSSING	27,580
10. JASPER PLACE	15.070	21. WOODCROFT	10,863
11. LOIS HOLE	25,285		

LEGEND

- CENTRAL LIBRARY
- BRANCH LIBRARY (DOTS SCALED)
- MICRO LIBRARY
- SIZE = 10,000sqft

Map of Edmonton's library network. The thesis design is a replacement for Sprucewood branch (17). The orange dots are scaled to highlight the differing square footages of each branch; data from Canadian Urban Libraries Council, "2010 Canadian Public Library Statistics"

Edmonton Public libraries. Top to bottom: Stanley Milner central library, original Idylwylde branch, original Jasper Place branch; from Babiuk, *Just Getting Started*

Alberta Avenue, 2013

> Architecturally, it is one of the best-preserved neighbourhoods in Edmonton. In its founding era, property developers and city regulators did not mandate sameness and blandness. Craftsman and California bungalows sit next to barn-like houses infused with Dutch colonial influence or even Spanish revival. Mature elm trees line the boulevards.[88]

The community fell on hard times as the twentieth century progressed, and the neighborhood demographics highlight higher than average crime rates, lower quality buildings and health, poor education, and a higher than average number of single-parent households.[89,90] These being noted, an impressive community-led revitalization has been occurring in recent years, championed by the Arts on the Ave organization. The neighborhood now hosts a number of popular festivals throughout the year, and Alberta Avenue itself (118 Ave.) is slowly coming back to life.[91] On my visit to the branch library one summer afternoon, it was overflowing with activity and at 6,000 square feet, clearly inadequate for the community's needs.[92]

The Sprucewood branch began in 1953 as many libraries do, in the shell of a different building. The Edmonton Public Library (EPL) wanted its first branch, but civic funds were tight. St. Alphonsus Catholic Church on 118 Avenue and 85 Street had unused space, and so EPL began a lease and opened the branch.[93] Five years later, the purpose-built

88 Babiak, *Just Getting Started,* 140.

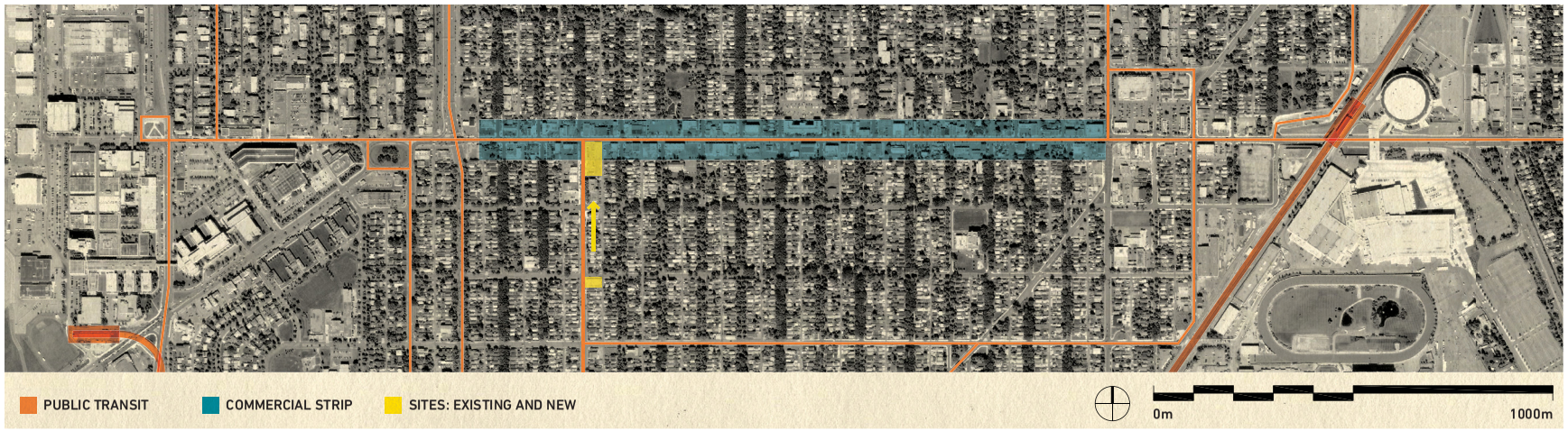
89 City of Edmonton, "Alberta Avenue Profile," accessed November 10, 2013, http://www.edmonton.ca/for_residents/2006_DEMOGRAPHIC_Alberta_Avenue.pdf.

90 City of Edmonton, "Alberta Avenue Indicators," accessed November 10, 2013, http://www.edmonton.ca/for_residents/Alberta_Avenue.pdf.

91 Babiak, *Just Getting Started,* 141-2.

92 Canadian Urban Libraries Council, "2010 Canadian Public Library Statistics," accessed November 10, 2013, http://www.culc.ca/cms_lib/2010%20Canadian%20Public%20Library%20Statistics.pdf.

93 Babiak, *Just Getting Started,* 136-7.



Urban axis - Alberta Avenue (118th)

North elevation of the site

West elevation of the site

Neighborhood massing, site highlighted

Sprucewood branch opened in its current location on 95 Street and 116 Avenue, two blocks south of the commercial strip.[94] The current branch library is a rich cultural mixing ground, reflecting the many new Canadians settling in the neighborhood. Sprucewood's multilingual collection includes Somali, Portuguese, Arabic, Russian, Spanish, and Chinese, as well as an Aboriginal section reflecting the strong First Nations community in the neighborhood.[95] As I am arguing that public libraries should be heterogeneous mixing grounds, it naturally follows to design one for a neighborhood that is equally diverse.

The commercial strip of 118 Ave. cuts through the neighborhood and provides a strong axis to build off of. The chosen site is two blocks north of the existing branch, located directly on the strip. The new branch remains within walking distance of neighborhood residents, and has multiple bus routes that pass it.[96] Additionally, this site is particularly ideal because it represents a highly prototypical condition across North America. While the design proposal is tailored to this particular community, the lack of a strong topographic or architectural specificity to the area allows the general principles of the project to remain clearer. A very unique site would justifiably result in an idiosyncratic design, however it would also be a more difficult building to derive general principles from.

94 Ibid., 142.

95 Ibid., 142-3.

96 City of Edmonton, "ETS Map - Day Service," accessed September 10, 2013, http://www.edmonton.ca/transportation/ETS_Day_Map_Sept_2013.pdf.

Site strategy: the domestic typology is continued onto the commercial strip

3.1.2 Site Strategy: Extending the Domestic

The site strategy's primary goal is to define the library as a staunchly non-commercial institution. It also permits a hub-and-spoke plan, and helps generate a building that can adapt to changing needs over time. Worpole notes that while the library is an ephemeral service that includes things such as "inter-library lending, negotiating rights, electronic networking, professional training, negotiating with authors and publishers, commissioning re-prints, [and] operating mobile libraries," most people think of it as a building, and the architecture becomes an important symbol for the rest of the institution.[97]

The chosen strategy is to frame the library as part of the non-commercial realm by turning to the residential block, rather than the strip, for the building's massing and typology. By tracing the lot lines of the suburban houses across the block and onto the site, its rooms echo the houses, sheds, and garages. These rooms are developed as solid elements, and

97 Worpole, *Contemporary Library Architecture,* 50.

are linked with glazed sections. Each might contain one or more program elements, and are placed on the periphery of the site, leaving the middle as a hub. In this way, the hub (of the hub and spoke) is extended into a line, and the casual reading and bookshelf areas become an indoor street, lined by other, contained program elements as houses along it. The massing allows the individual pods to have a degree of individuality in line with the metaphor of houses in a village, while clearly articulating the building as distinct from the rest of the commercial strip.

Materially and tectonically, the building is framed as staunchly modern. Edmonton experienced a sizeable building boom in the post-war decades, and public buildings in the city have become synonymous with Modern architecture as a result. Sprucewood, opened in 1958, reflects this, with brick walls and roof overhangs articulated to emphasize their planarity. The structure is an austere one of masonry walls and timber beams. Full-height windows in key sections are balanced by strip windows above bookshelves elsewhere. Bringing the ambiance of the existing Sprucewood into a new building will help maintain a degree of continuity in the neighborhood, and would allow visitors to feel a welcome sense of familiarity with the building despite its novelty.

Two other elements were used to frame the building on the site: the strip of green space that exists in front of the adjacent seniors' home and the desired circulation paths across the site. Giving the library a lawn helps emphasize its connection to the domestic realm, and since it occupies a corner lot, many pedestrians naturally want to 'cut the corner.' Ideally, they could do so by taking a detour through the library. Current self-checkout terminals allow for multiple entrances to the library, and a degree of permeability still rare for the institution. This permeability underlines a sense of ownership over the space, where all members of the community feel entirely at home.

3.2 Building Design: Place and Occasion

For the design of a library to powerfully enhance a diverse communication mosaic, the spaces within it should be unique enough to enhance the particular forms of communication they serve, while being comparable enough that no single form of communication appears elevated above the others. Few architects have attempted to design buildings that act as these rich, evocative frameworks. Aldo van Eyck and Herman Hertzberger are two notable

The program cells loosely arranged within the site strategy

exceptions, and their writings prove revealing. Highlighting how a building may become meaningful to an individual, Hertzberger notes that:

> The more associations can be evoked the more individuals will be able to respond to them – that is, the more chance there is that the associations evoked will be of specific relevance to the user in a given situation. Each form therefore, rather than being neutral, should contain the greatest possible variety of propositions which, without imposing any one specific direction, can thus constantly bring about associations.[98]

The 'associations' that Hertzberger refers to are spatial metaphors. Do those windows look like eyes? Do these columns evoke a forest? Does this space feel like the interior of a cave? And does this interior passage feel like a bustling outdoor street? Bland, neutral spaces cannot begin to evoke these readings, and neither can buildings designed as visual punch-lines.[99] Van Eyck addresses the alienation that overly abstract architecture can cause, stating that:

> Whoever attempts to solve the riddle of space in the abstract, will construct the outline of emptiness and call it space. Whoever attempts to meet man in the abstract will speak with his echo and call this a dialogue.[100]

Two primary strategies were used to avoid this condition: employing a variety of spatial metaphors to articulate a rich experience of 'library,' and allowing the library's places and occasions to maintain a degree of autonomy from each other.

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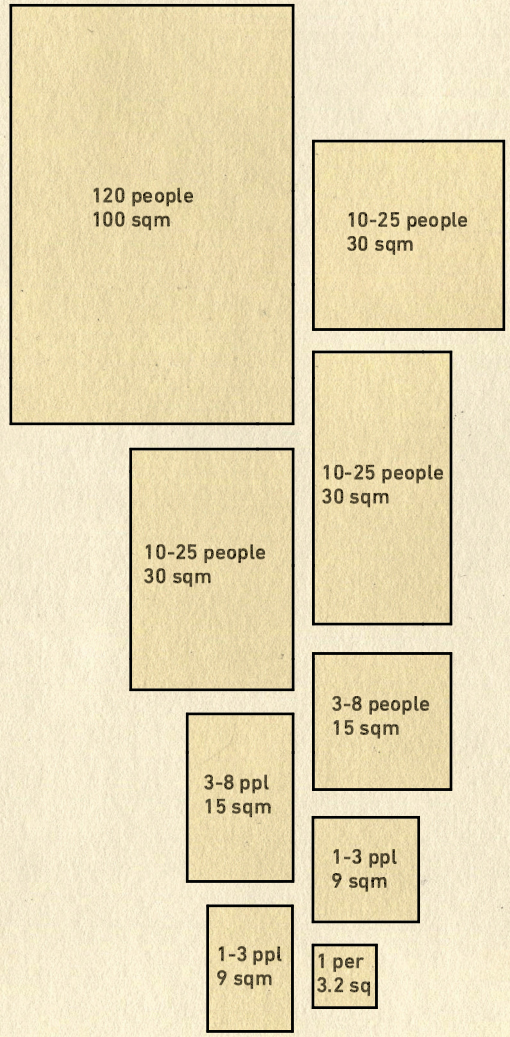
98 Herman Hertzberger, *Lessons for Students in Architecture* (Rotterdam: Uitgeverij 010 Publishers, 1991), 162.

99 Van Eyck, Ligtelijn, and Strauven, *The Child, the City and the Artist,* 80.

100 Ibid., 50.



Program Area	#	sqm / rm	total sqm
Lecture Hall	1	100 ± 10	100
Reading Room	1	500	500
Network Access	1	30	30
Children's Area	1	60	60
Sm. Meeting	4	9	36
Med. Meeting	2	15	30
Lrg. Meeting	1	30	30
Private Study	12	3	36
Total			822

Catalogue Node	4	3	12
Circulation Desk	1	20	20
Media Stacks	1	400	400
Servers	1	30	30
Lending Library	1	30	30
Database Nav.	3	20	60
Embodiment	1	30	30
Total			582

Mechanical	1	30	30
Entry Hub	1	100	100
Café	1	15	15
Circulation/Sorting	1	40	40
Librarians' Offices	4	15	60
Workrooms	2	15	30
Staff Lounge	1	30	30
Shipping/Receiving	1	10	10
Janitor	1	7.5	7.5
W/C (single rooms)	5	5	25
Total			347.5

% Communication	47%
% Collection	33%
% Support	20%
Total Area	1751.5

The spatial cells and initial program for the design of a new Sprucewood branch

Architecture mediates place and occasion. As van Eyck states: “space in the image of man is place[,] and time in the image of man is occasion.”[101] In human experience, place and occasion simultaneously frame each other in a figure-ground interplay. At one instant, the place is the figure, framing a mental ground of the many occasions it could hold. At the next instant, the occasion is the figure, framing a mental ground of places where the occasion could ‘take place.’ A building is many things to many people when this interplay is occurring, and achieving it requires a loose fit between place and occasion.

Translating this insight into built form means avoiding the practice of designing a building to deterministically express its program. The library needs to primarily exist as a mosaic of places, one that allows different occasions to inhabit each space as the building’s needs evolve over the years and decades of its life. The program document can be reframed as a document of occasions that includes the approximate size that each requires. Cellular units based on the approximate space requirements for different numbers of people gathering can then be developed, and the building can be designed as a mosaic of these cells, existing within the framework of the site strategy. Any program element which matches the size of a cell can inhabit it.

The parti that emerged is a central indoor street spine lined with alcove forms which can hold one or more program cells. The program areas spill out from their alcoves onto the street, mixing in the process. The retrieval of the alcove configuration from classical libraries was entirely incidental in this design, and the alcoves here are used very differently. This coincidence is worth noting, nonetheless. In section, the alcoves are very solid with minimal fenestration, and the roof is lifted up on both sides into a butterfly roof, bringing light down into the alcoves from above. These two drawings comprise a basic prototype for one mass along the street, and the units of the building are particular instances of it.

The strategy results in a highly adaptable building, and during the design process the program elements migrated numerous times with minimal change to the overall building. Van Eyck’s unbuilt “Wheels of Heaven” church was a useful reference while designing the library, as it accommodates four unique chapels within a non-hierarchical whole.[102]

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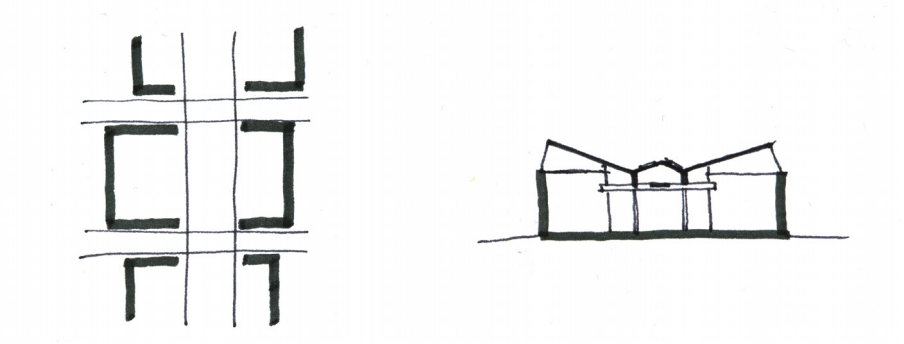
101 Ibid., 61.

102 Aldo van Eyck and Vincent Ligtelijn, *Aldo van Eyck, Works* (Basel: Birkhäuser Verlag, 1999), 122-6.



Plan and section prototypical forms

Program areas flow out from the brackets and intermingle along the central spine

Van Eyck's call to "make of each place, a bunch of places," ensuring that "a house is a tiny city [and], a city is a huge house," implies a true variety of spatial conditions. A requirement if the building is to exist as a mosaic.[103] Some rooms *should* be dark niches, as Hertzberger points out:

> Take, for instance, a dark space or niche – for most people it will suggest a secluded and safe corner, but for each individual it has a different significance, a relevance to his particular circumstances: it can be just a secluded corner to relax in, for quiet study, for sleep, for use as a darkroom, or just as storage for food or other private belongings. If a house is to have the capacity to evoke all these different kinds of associations and be able to accommodate them, it must have such a secluded corner somewhere – and in the same way, small rooms, tower rooms, attics, cellars, and windows under eaves induce other kinds of associations. The richer the variety of what is offered, the greater the capacity of the house to meet the most richly variegated desires of the inhabitants.[104]

In the particular context of the library, visitors have a wide range of individual preferences about where they want to read, talk with friends, listen to music, or watch a film on their tablet. A full range of spatial conditions enhances visitors' engagement with the collection and with each other.

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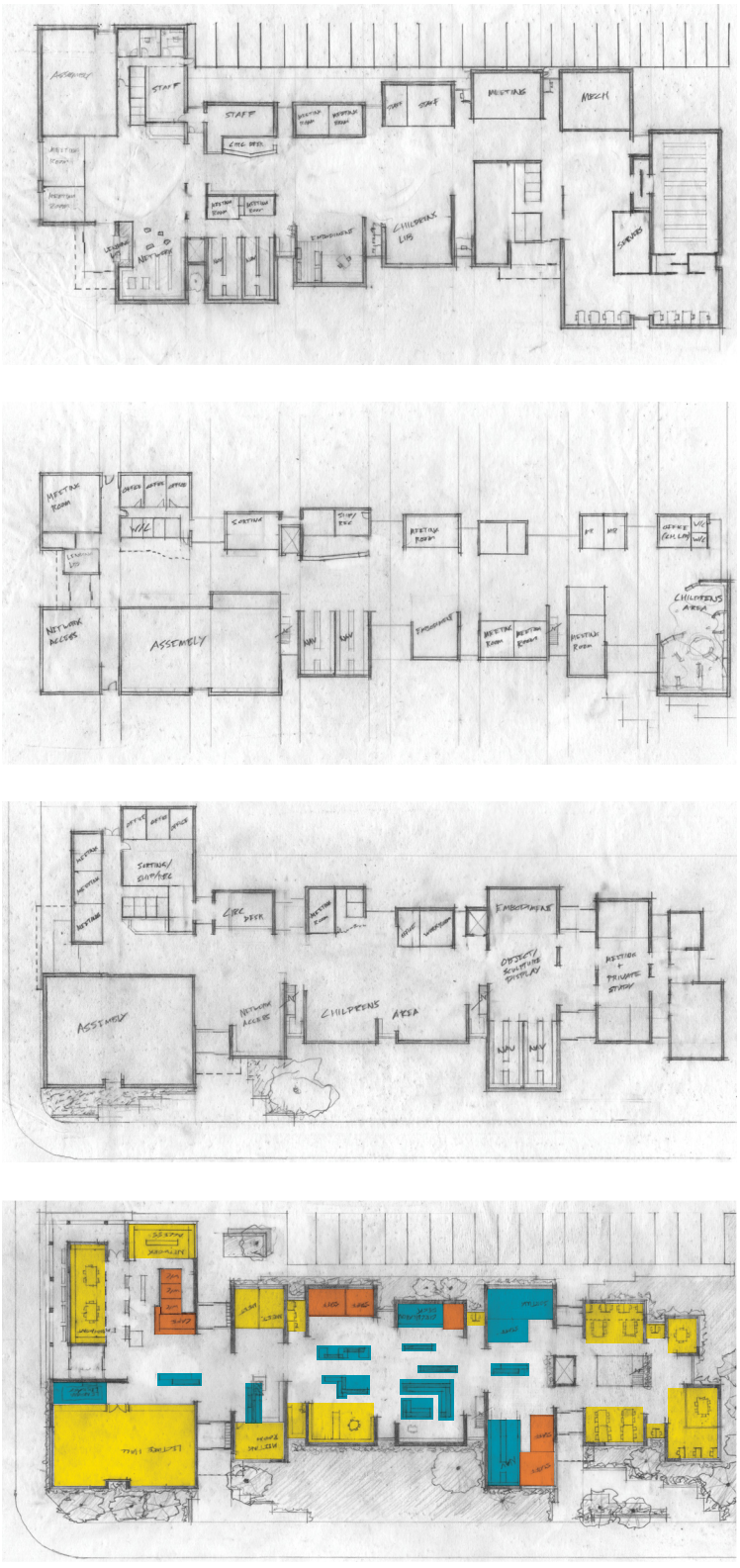
103 Van Eyck, Ligtelijn, and Strauven, *The Child, the City and the Artist,* 50.

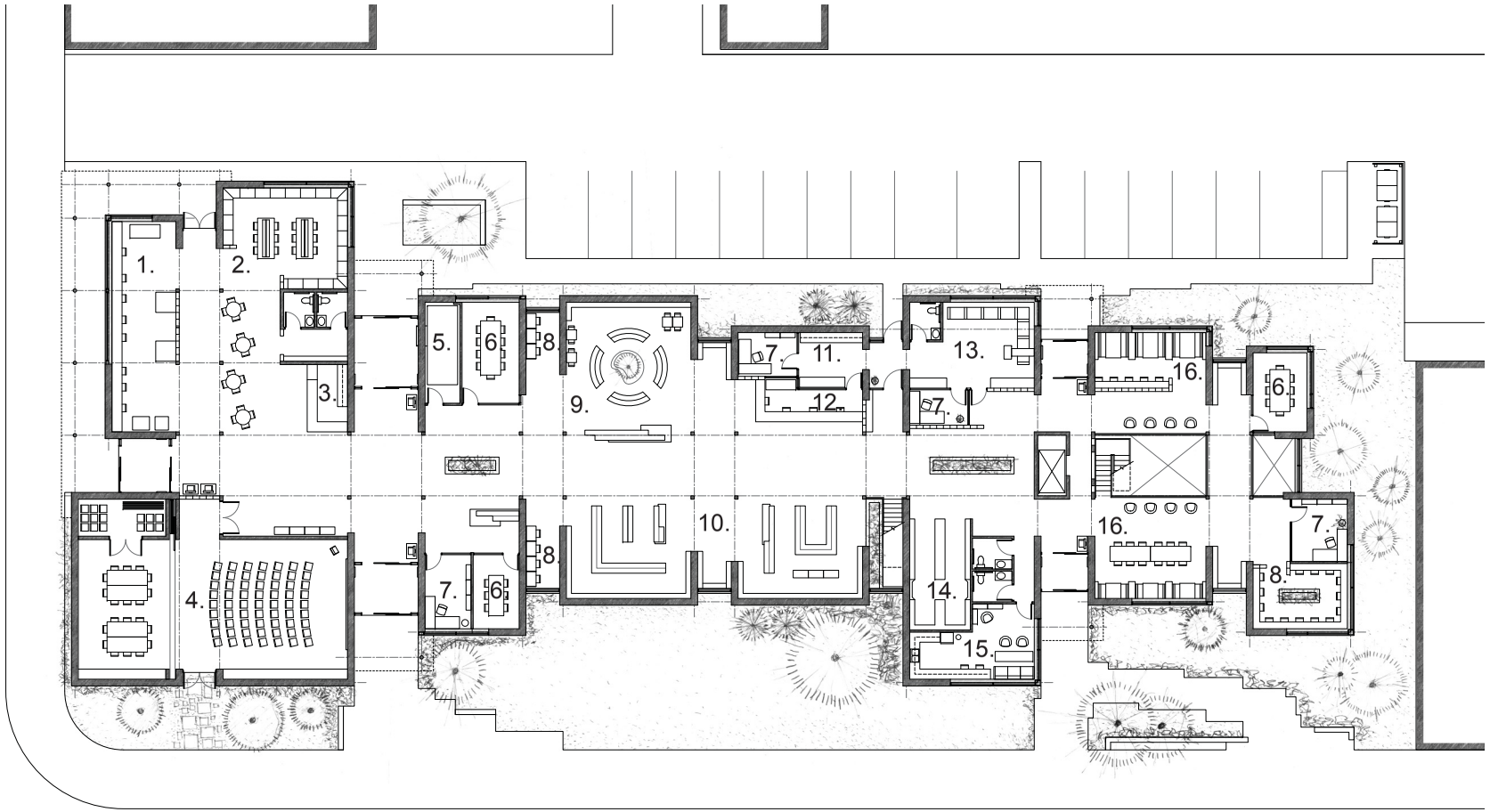
104 Hertzberger, *Lessons,* 162.



The evolution of the cells placed within the framework of the site strategy

1:50 study models of one building bay

The program areas are arranged in the building to define an acoustic gradient: the spaces become quieter and more domestic as visitors move farther away from Alberta Avenue. Meeting rooms and staff offices are scattered throughout the building to provide a variety of places to meet and a number of supervision points. The media embodiment area, network access area, cafe, and lecture hall are all located in the liveliest part of the building, adjacent to the commercial strip. These areas encircle a zone of cafe tables where visitors can have boisterous conversations with friends. The canopied portion of the north facade draws passersby into the building and provides a sheltered area to wait for the bus. The expansive glazing underneath it places the embodiment area on display, highlighting the variety of objects being created within the library. Together, the canopy and display window gently tie this public building to the adjacent commercial typology.

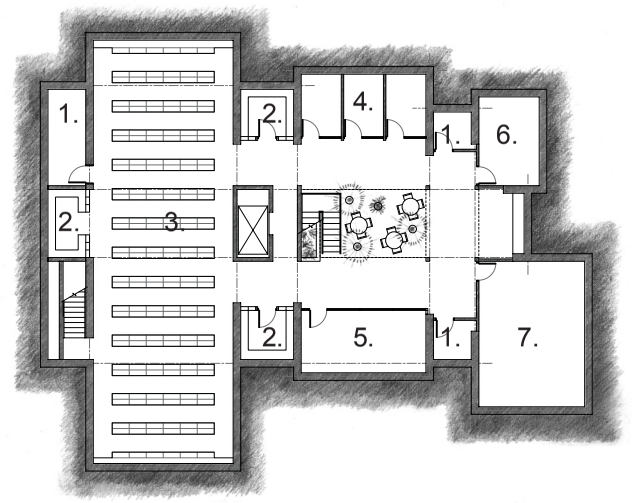


Main floor plan

1. Media embodiment
2. Network access
3. Cafe
4. Lecture hall
5. Hold pickup machine
6. Meeting room
7. Office
8. Private study
9. Children's area
10. Casual browsing
11. Shipping / receiving
12. Circulation desk
13. Staff workroom
14. Database navigation
15. Staff lounge
16. Group study

Site plan, primary circulation highlighted

0m 100m



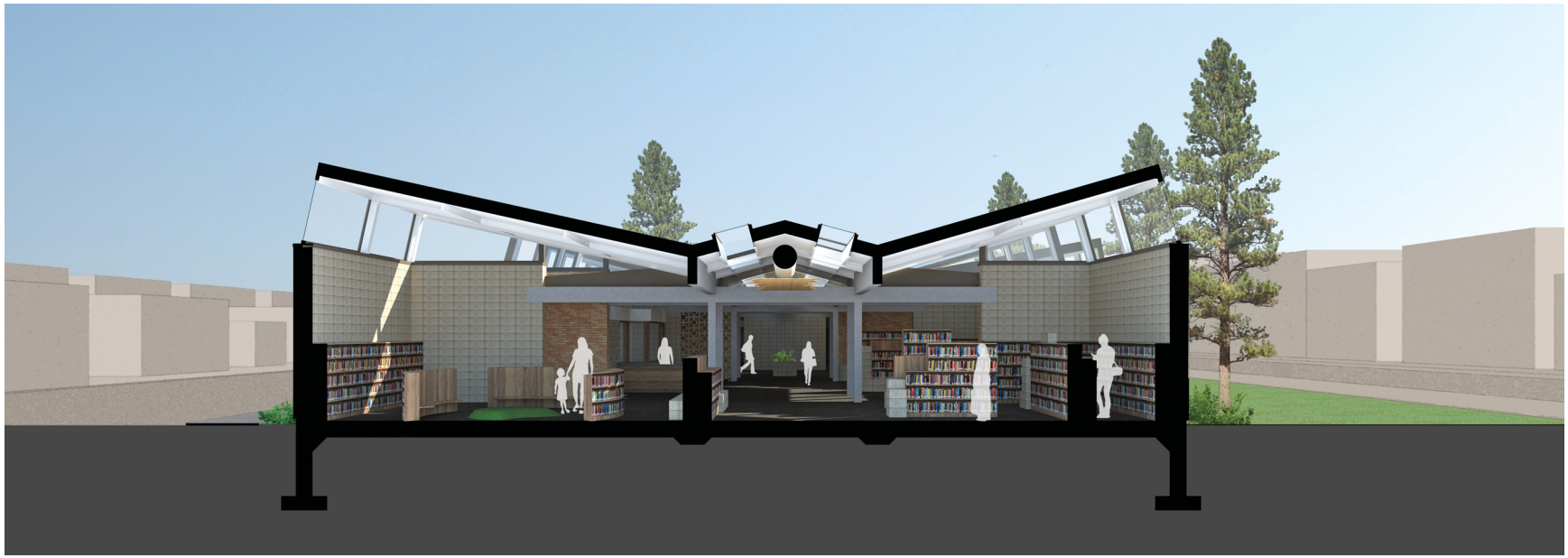
Basement floor plan

1. Storage
2. Informal meeting
3. Media stacks
4. Private study
5. Servers
6. Janitor
7. Mechanical

The facade of the building along 95 Street

Longitudinal section

0m 25m



Transverse section through the children’s area and casual browsing stacks

0m 10m

View of the northwest corner

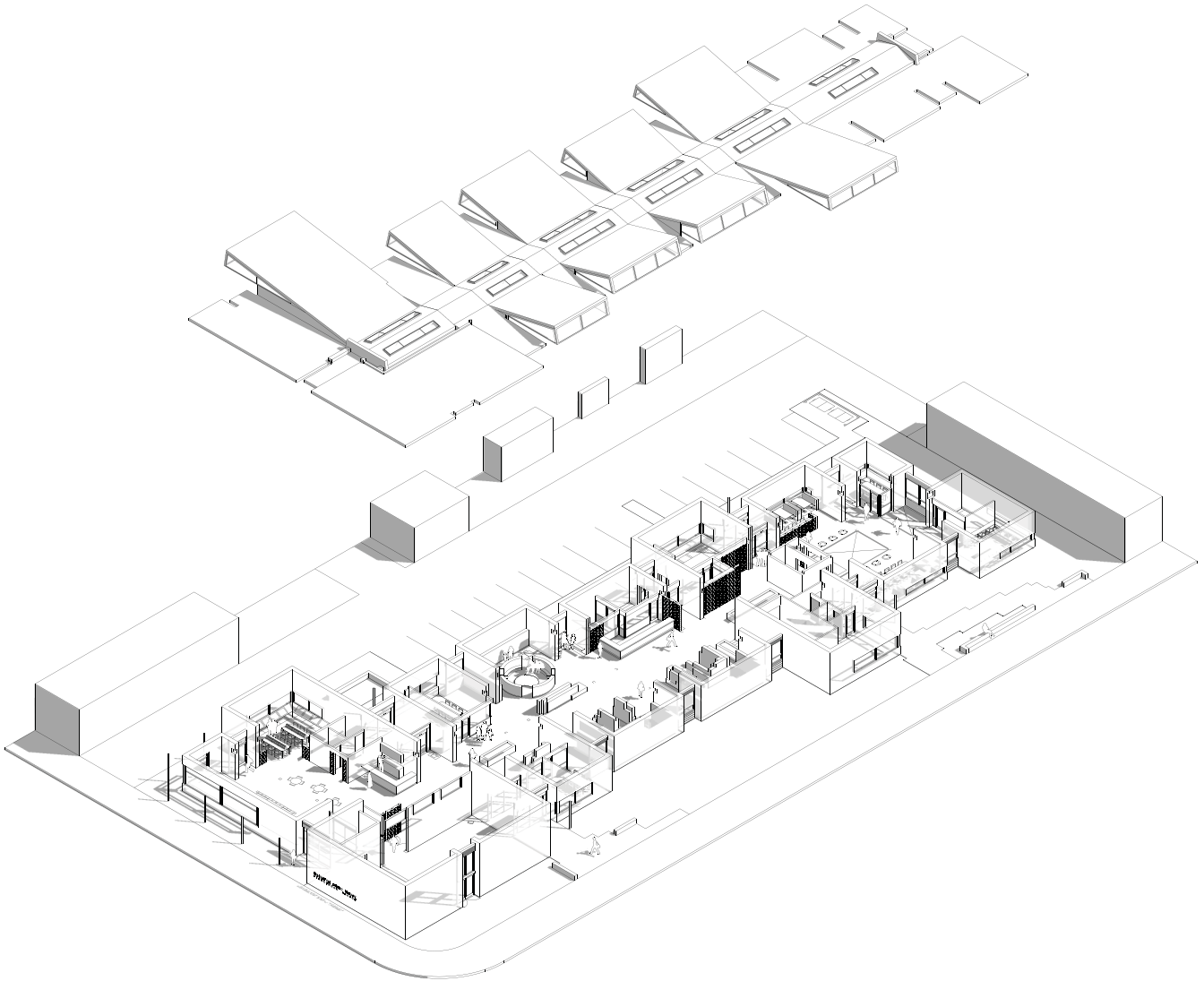
View of the west elevation

The network access area

The middle segments of the building house the casual browsing area, children's area, circulation desk, database navigation space, and staff areas. The browsing area is designed as a human-scale landscape: the bookshelves provide places to sit, lean, and place objects, as well as holding the frequently borrowed items in the collection. The children's area is designed as a storytelling circle, with low circular bookshelves that hold books on their outer surface and become seating on the inside. Placed adjacent to the circulation desk, the children's area never lacks supervision. The staff areas include a workroom with an automated book sorting machine, a shipping and receiving space, and a lounge with views onto 95 Street.

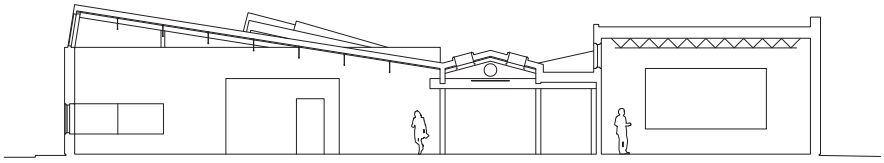
The area created by the southern segments of the building is the most intimate, and takes on a staunchly domestic character. In contrast to the rest of the building, all of the ceilings are low and the windows are slits at the eye level of seated readers. The quiet group and individual study areas encircle a double-height volume that connects this area to the basement. The elevator placed along the main circulation axis breaks off this part of the building from the rest of the library.

The interior street in the children's and casual browsing areas

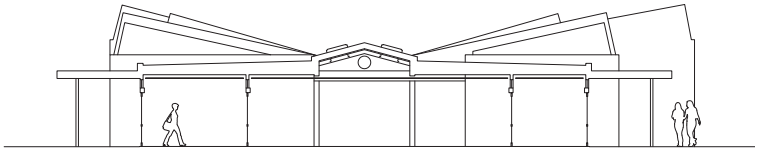


Building axonometric

The southwest private study area



Section 1



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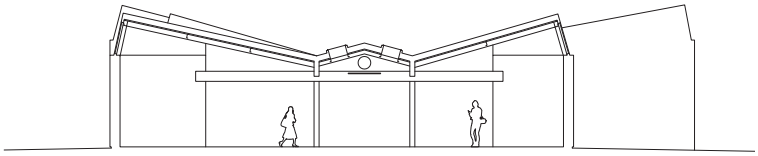

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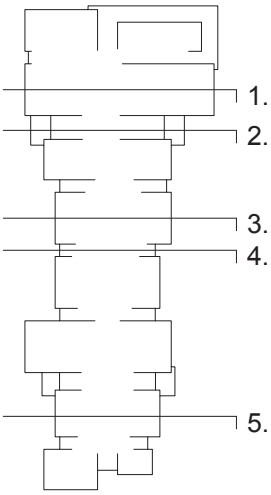
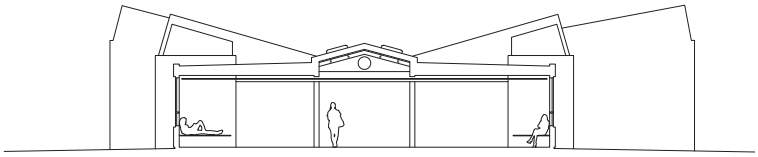
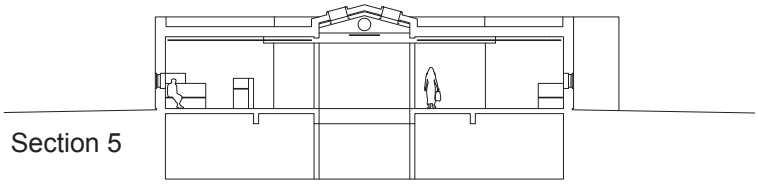


Key plan



Section 4



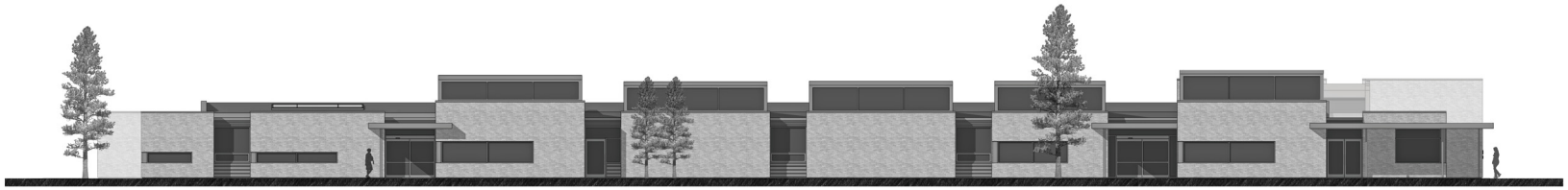
Section 5

Building sections

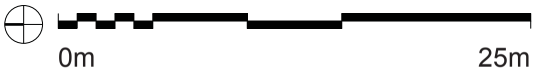
North elevation

South elevation

West elevation



East elevation



Staggered facades as book spines

Light monitor as a book

Library as a walled garden

The basement houses the dense media stacks, the mechanical and server rooms, storage spaces, and a lounge at the bottom of the double-height space. The media stacks are arranged in dense rows, allowing patrons to experience the more traditional library browsing experience while ensuring that the branch can retain a sizable physical collection. The basement also contains three rooms for isolated private study, and three intimate, informal group discussion rooms.

3.3 Reading the Building

The fundamental hope that certain values could be communicated through the built form of the library drove the use of spatial metaphor in the design process. Johnson and Lakoff note how complex concepts such as love require a litany of metaphors to describe them, and for the library to be a rich text that supports multiple readings it also requires an extensive array of metaphors defining it.[105] If my design process was successful, then certain readings of the building would be more common than others, and visitors' understanding of the place would relate to the metaphors that were used.

A number of elements communicate the primary concept of individual parts coming together into a mosaic whole. The brackets of the building read from the street as individual structures brought together like houses in a village. The library design is highly permeable, having six different entries, and the ability to enter the indoor street from a number of different points further emphasizes the cells of the building as individual structures, and their combination as a small city. Their facades may also be perceived as books along a shelf, with the staggered facades recalling the differing dimensions of books within the rigid framework of a shelf. The main interior route through the building is intended to

105 Ibid., 108.

Library masses as houses

evoke an exterior street or a covered arcade, emphasizing the urban metaphor. The one-point perspective down this central axis also brings the variety of activities going into a unified view, again presenting the viewer with a mosaic of activities structured into a unified whole by the building. Further, the building itself is explicitly composed of individual parts through the use of masonry as an interior and exterior finishing material. The type of masonry used—rough CMU on the interior, multi-coloured brick on the exterior—clearly emphasizes the uniqueness of each unit.

Another guiding metaphor is the library as a walled garden, defining it as a sacred place with a clear inside and outside.[106] As in a walled garden, the views out are limited, the world within is abundantly rich, and the natural light is primarily from the top. The windows in the masonry walls are minimal, and they may be understood as cracks to be peered through. Framing the library as a garden shapes the interior spaces into a lush landscape of places to sit and explore. The built-in furniture elements are conceived of as rocks jutting out of the ground, with seating and bookshelves built onto them. And from the street, the light monitors may evoke giant heads peering over the brick walls of the garden, or a giant book partially open.

Thinking more abstractly, some visitors may conceptualize the building's butterfly roof section as a book lying open; the spine of the book being the low-point along the central axis of the building. Visitors may also consider the alcoves as square brackets that frame the many activities taking place in the building.

106 Van Eyck, Ligtelijn, and Strauven, *The Child, the City and the Artist,* 63.

CHAPTER 4: REFLECTIONS AFTER THE DEFENSE

Revised northeast corner

The design for a new Sprucewood branch explored the formative ideas of this thesis, however it gradually turned away from the urban realm in the process. The discussion that arose during the thesis defense criticized the building as turning away from the street. Perhaps the formative metaphor of ‘library as a walled garden’ contributed to this problematic development. As a public building, the branch library necessarily projects a public presence. Therefore, following the defense, I undertook to modify some aspects of the design. Since the library had been developed as a framework of systems, re-designing the building required that I redeploy these in a slightly different configuration to strengthen its relation to the urban context, while preserving the good qualities of the interior architecture.

I first revisited the strategy of encouraging visitors to cut the corner of the block by walking through the building. The circulation in the previous design lacked a strong flow, and so a diagonal path was defined through the building. This revised strategy had the added benefit of creating two indoor squares which would be ideal meeting spaces within the building. The shifting path also emphasizes the library as a landscape to be explored, as it creates many dynamic views through the building.

Revised west elevation

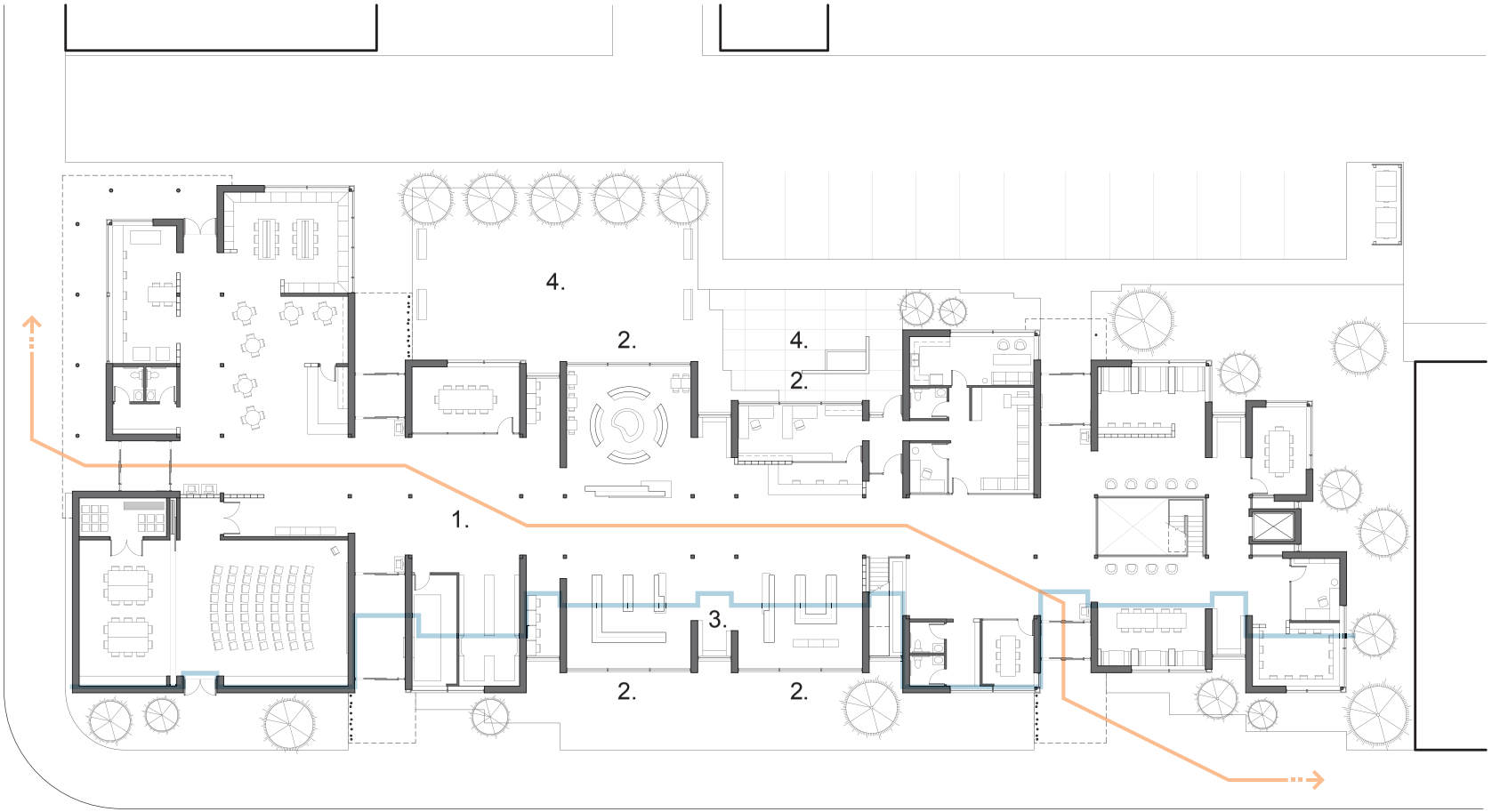
The segments of the building have been shifted closer to the sidewalk, shrinking the underutilized front lawn. A small green strip for trees and shrubs has been maintained, matching the typical condition along 95 Street. This brings the West entrances much closer to the street, and so the entry canopies have been extended to the sidewalk and articulated with screens that draw passersby into the library. Shifting the segments of the building allows for a large back lawn, true to the neighborhood typology. The lawn can be used for events, recreation, and community gardens.

The central segments of the building were the most opaque part of the library, and contributed significantly to the anonymity of the west facade. This condition is inverted through full height curtain walls, placing the casual browsing, children's area, and circulation desk on full view while also giving these places desired views out. These are the program areas which most strongly define the public library. By highlighting them, the building clearly displays its identity. Additionally, the blankness of the northwest corner is softened through a clerestory window. A wooden screen in front provides visual texture while softening the light entering the hall.

Combined, these changes enliven the building's street presence and browsing experience, acknowledging the urbanity of its location.

Revised site plan, circulation highlighted

0m 100m

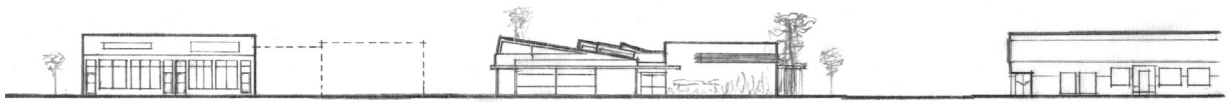


Revised main floor plan

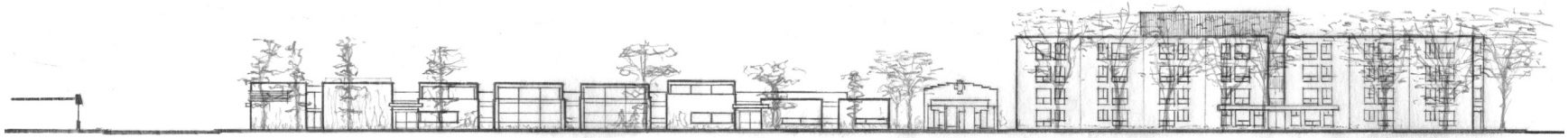
1. Improved circulation route
2. Additional glazing
3. Facade closer to the street
4. Backyard lawn and patio

0m 25m

Revised northwest corner



North urban elevation



West urban elevation

CHAPTER 5: CONCLUSION

The thesis defense pin-up

This thesis began by asking how public libraries can better enhance the communication taking place within them. Plural democracies require healthy public discourse, and the overt commercialization of mass media requires at least one non-commercial counterpoint with a prominent place in society. The public library holds that role well, and must continue to as society and technology rapidly evolve.

Implicit in asking how architecture can enhance communication is the assertion that architecture provides a meaningful framework for it. Researching communication more broadly quickly led to the concept of framing, and to how architecture functions as a powerful built frame for the activities that take place within it. Johnson and Lakoff's work on metaphor was extremely revealing, and highlighted the vital communicative role that spatial metaphor plays within architecture. Their work made it clear that many design strategies for relating a building to its adjacent context were simply instances of spatial metaphor, where a new building is metaphorically tied to an existing place through its form and materiality. The late incorporation of ideas from van Eyck and Hertzberger corroborated the earlier research, as they provided an explicitly architectural account of spatial metaphor (Hertzberger's ideas on 'associations'), and on the key figure-ground relationship taking place within architecture (van Eyck's ideas on place and occasion).

The thesis resulted in a number of findings for the design of new branch libraries, and they can be summarized as follows:

- The design of a library will frame the communication taking place within; a library that supports multiple readings overcomes the danger of presenting a single authoritative voice to its visitors. The use of a mosaic formal strategy can help foster multiple readings of the building.

- Libraries should contain a large and varied building program, reflecting the diversity of contemporary communication.

- Hub and spoke plans are ideal for branch libraries, as they fit the requirements of library program areas and provide a clear structure for visitors to navigate.

- Digital technology can be incorporated into libraries by using technologies such as RFID to enhance the reading room, automated book sorting machines to enhance lending, room-scale interfaces to enhance browsing digital collections, and small-scale production equipment to support embodying digital files as physical prints.

- A loose fit between the spaces of a library and the activities that take place within helps the building adapt to changing needs. Abstracting program areas into cells that support a certain numbers of people, then designing the building as a system of these cells, is one approach to achieving this loose fit.

- Spatial metaphor can be used to communicate the institutional values of the public library through its built form.

For architecture to respect the needs of its human inhabitants, it must communicate on their terms. An experientially rich building is a metaphorically rich one, and I consider this to be the most important insight of the project.

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