Stacks

Core II Studio
Spring 2019

Professor, Emmett Zeifman (ez2148@columbia.edu)
Mentor, Kevin Hai Pham (khp2112@columbia.edu)

Studio Coordinator, Mimi Hoang (mch2142@columbia.edu)
Administrative T.A., Kyungmin Cho (kc3044@columbia.edu)

This studio asks you to propose a new prototype of a public branch library through research into two significant architectural instances of the stack: the library stack (an organizing structure of libraries); and the vertical stack of discrete floors (an organizing structure of modern buildings). As a matter of generative technique, the studio will explore the stacking of discrete objects, supported by precedent research, structural consultation, conceptual argument, and architectural documentation. Physical and digital models of stacked objects will be translated as directly (or literally) as possible into designs for buildings, questioning assumed hierarchies or differences between representation and construction, model and building. In this studio you will explore the possibilities of stacking stacks of/on/in stacks, generating novel structural, formal and programmatic strategies for the branch library that address heterogeneous media, activities and constituencies.

1. Stacks (Typology)

Structure and Organization. The focus of this studio is on structure and organization; however, it should be clear from the outset that structure exceeds the necessity of physically supporting a building and its occupants. Architects define, with a high degree of precision, the assembly of building materials into a specific and generally stable form; this material assembly in turn defines spaces within which varied activities occurs. In the case of a library, the architectural program includes the precise organization of the materials that make up the holdings of the library and support the various activities that occur within it. In this sense, this studio asks you to propose the structure or organization of the architectural project on several interdependent levels: that of the form of the building, that of the form of the collection of the library, and that of the form of the activities that occur within the library.

Library Stacks. As libraries grew to accommodate printed books, the primary device for organizing the materials of the library became the stack, a repetitive system of shelving that houses printed and other materials in a coherent, efficient and accessible manner. The stack became the essential architectural device in the program of the library: the storage of increasing amounts of information and its dissemination to an increasingly large public. The organizational structure of the stack is often integrated with the physical structure of the building: sometimes as a synthetic assembly that carries both the collection and the weight of the building itself; more frequently as an interlay of self-supporting or dependant shelving within the structural bays of the building. In paradigmatic examples, the stack (for storage) was complemented in the

organization of the building by the carrel (for use), a synthetic unit of seating, shelving, working surface and natural lighting. With the transition from smaller religious and academic libraries to the civic libraries of the 19th century, stacks framed and at times literally supported grand public reading rooms. Today, with the centrality of books no longer given in the program of the library, we will rethink (but not discard) the organizing structure of the library stack, its contents, and the spaces and activities that it supports, speculating on ways in which new stacks might produce new frameworks for the public library.

Floor Stacks. When the library stack exceeds the category of furniture to perform either independently from the structure of the building, or as the primary structural system for all or part of the building, it suggests a challenge to the conventional structural organization of modern buildings into stacks of discrete and solid floors. This structural organization--a vertically layered stack of horizontal floors, carried by a system of columns, beams and service cores, and subdivided by partition walls and furniture--has been a defining feature of modern architecture, established through intersecting economic, technological and cultural forces from the late-nineteenth century onwards. It has been theorized by numerous architects from the advent of modernism to the present, from Le Corbusier's sketch of the Maison Dom-Ino to Rem Koolhaas's parable of the Downtown Athletic Club to Preston Scott Cohen's writings on architecture's core. In taking up the library stack as a primary and load-bearing architectural element, we will challenge the conventions by which architectural structure, form and program are organized into stacked floors. In this, we will engage and advance a contemporary body of research on the potential of stacks of self-supporting objects to generate new structural, formal and programmatic effects, resolving those aspects of the project (as well as others such as circulation, enclosure, siting, etc.) within a coherent and novel material and aesthetic framework.

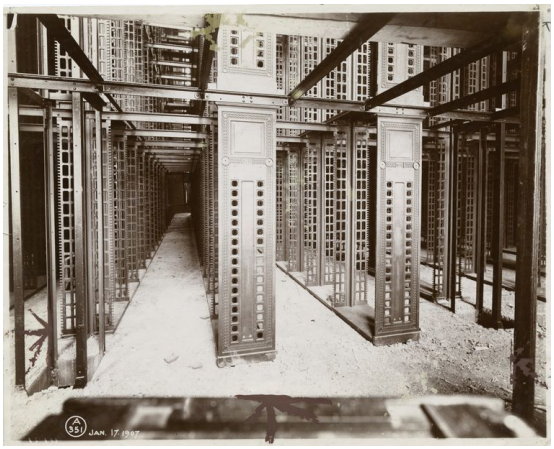
Program. As you will learn throughout the term, public branch libraries--of the type you are being asked to design--exist within formal and informal infrastructural and social systems that amplify their holdings and multiply their uses. Information is stored in varied media, both on-site and off-site, and is accessed both manually and digitally. The synthetic relationship of the library stack to the carrel or reading room within a coherent formal and material structure has been supplemented by multi-functional event spaces, children's areas, digital media facilities, off-site storage, etc. Users access materials, but also access social services, social activities, education and shelter. In rethinking the library stack as a structuring element of the library, and the stack of floors as a structuring principle of modern building and its accomodation of modern programs, you will be rethinking the nature of the public library, prompting alternate organizations of the collection and building that address heterogeneous materials, activities and constituencies.

Prototypes. While you will research and respond to a specific site in Chinatown in the development of the project, you will also be asked to consider the buildings that you design as prototypes: exemplars of the branch library that might be replicated in other contexts. Reflecting on the initial development of the New York Public Library system through the dozens of Carnegie libraries designed in mostly uniform style by McKim, Mead & White, Carrère & Hastings and Babb, Cook & Willard/Cook & Welch in the first decades of the twentieth century, you will approach the project as a prototype of architectural intervention in existing urban contexts. In so doing, the studio will engage Beaux-Arts architects such as Jean-Nicolas-Louis Durand, whose pioneering work on systems of architectural typology inform the Beaux-Arts character of civic architecture in the United States and elsewhere, as well as on modern and contemporary attitudes towards generic, open, or prefabricated structures.

2. Stacks (Technique)

Literal. A recurrent ambition in contemporary architecture is the literal translation between representational artifacts (software, printed images, physical models) and buildings. We can speculate on varied and intersecting origins of this interest: the “paper” and “cardboard” architectural experiments of the 1970s; roughly concurrent post-minimal, conceptual and “expanded” field art practices that directly engaged the practices, scale, materials and effects of architecture; the emergence of the physical model as a primary and generative design tool in offices in the same period; the subsequent adoption of digital design and fabrication technologies that established new relationships between representational media and buildings. This studio will pursue the idea of a flattened or non-hierarchical field of architectural production, in which a building might be a model, a model might be an image, and an image might be a building. You will strive to produce each of these artifacts as a complete work unto itself, while also recognizing that in architecture each artifact always exists in relation to other artifacts that collectively comprise a project.

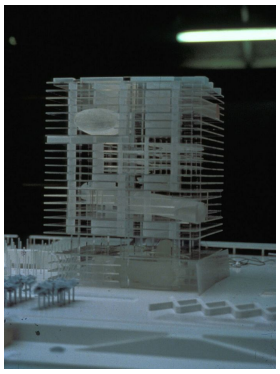
Models. The use of physical and digital models as primary tools of design has contributed to the development of new aesthetics and formal syntaxes, including the recurrent trope of buildings that look like (or, more interestingly, are actually constructed from) stacks of self-supporting objects (stacks of blocks, stacks of trusses and colonnades, stacks of pitched-roof house forms, stacks of plastic toys, etc.). Importantly, physical modelling techniques (e.g. Frank Gehry’s draped cloth and bent paper and mesh models) have at times preceded and prompted the development of the software necessary to reproduce their effects at the scale of the building (e.g. Gehry Technologies’ Digital Project). The defining characteristic of architectural design in the contemporary period may therefore not be digital technologies themselves, but rather the centrality of the three-dimensional model and its characteristics (physical or digitally simulated) in the conception of the material, formal and programmatic organization of buildings. In this studio, you will experiment with the use of physical models as generative tools, reflecting critically on the historical legacy of architects such as Frank Gehry, Peter Eisenman, OMA, Herzog & De Meuron, SANAA and numerous practices (e.g. Ensamble, MOS, Christian Kerez, MVRDV, Sou Fujimoto) that have emerged in their wake. You will be asked to develop techniques of stacking objects, and to transpose, as directly (or literally) as possible, those stacks of objects into designs for buildings. You will be asked to consider the use of ready-made or found objects, to consider objects that operate at multiple scales, and to pursue precision in the assembly of materials and deliberate scalar and representational ambiguity in its effects. In so doing, you will also be asked to reflect on the relationship between physical models, digital models and images, and the conventions of architectural drawing, questioning the ways in which techniques and effects of these varied media feed back on one another and on the production of buildings. Working with physical models should prompt new ideas of what it means to make a digital model, a drawing or a building (and vice versa).



Carrère & Hastings, New York Public Library Main Branch, 1907. Structural book stacks below main reading room during construction.

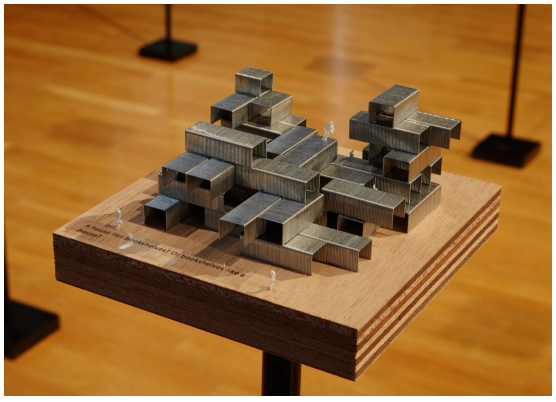
Le Corbusier, Immeubles-villas, 1922. Perspective of speculative project showing stacked townhouses with gardens.

Frank Gehry, Gehry Residence, 1977-78. Model showing addition to existing residence; building as model.



OMA, Zentrum fur Kunst und Medientechnologie and Très Grandes Bibliothèques, both 1989. Model showing public programs layered in stack of Vierendeel trusses; model showing readings rooms “carved” from “solid” stack of floors filled with book stacks.

Ensamble, Hemeroscopian House, 2008. Video still showing stacking of of ready-made elements.



Sou Fujimoto, A house like bookshelves? Or bookshelves like a house?, from *Architecture is Everywhere*, 2015. Stack of found objects + scale figures = architecture.

References

Reyner Banham, “The New Brutalism,” *Architectural Review* (December 1955)

Preston Scott Cohen, “Successive Architecture,” *Log* 32 (Fall 2014)

-----, “The Hidden Core of Architecture,” *Harvard Design Magazine* 35 (Fall/Winter 2012)

Rem Koolhaas, “The Double Life of Utopia: The Skyscraper,” in *Delirious New York* (1978, reprinted New York: Monacelli, 1997)

-----, “Strategy of the Void,” “Last Apples,” “Span (Cecil Balmond),” “Karlsruhe is a City in Denial,” in *S,M,L,XL* (New York: Monacelli, 1995)

Marc Linder, “Literal: There’s No Denying It,” *Log* 5 (Spring/Summer 2005)

Alison and Peter Smithson, “House in Soho, London,” *Architectural Design* (December 1953)

Robert Somol, “Green Dots 101,” *Hunch* 11 (2007)

Preston Scott Cohen and Emmett Zeifman, “Conversation,” *Project* 5 (Spring 2016)

Sara Constantino and Emmett Zeifman, “Default Mode,” *Proceedings of 107th ACSA Annual Meeting: Black Box* (forthcoming 2019)

Alfie Koetter and Emmett Zeifman, “Literal Digital,” *Proceedings of 107th ACSA Annual Meeting: Black Box* (forthcoming 2019)