

Columbia University
Graduate School of Architecture, Planning and Preservation
A4003: Core Studio 3, Fall 2017. "States of Housing."

M / Th 01:30–06:30 p.m. Studio Faculty: Daisy Ames; Eric Bunge; Adam Frampton; Mario Gooden; Jinhee Park; Hilary Sample; Galia Solomonoff; Emmett Zeifman

W 02:00–04:00 p.m. Lectures in Avery 114, Hilary Sample with Faculty

Hilary Sample Studio Statement

Stresses in Housing and Health

New York City has been at the forefront of developing new types of housing and strategies to improve and maintain public health from colonial times to the present. In the previous administration, as part of Mayor Bloomberg's "New Housing Marketplace Plan" and adAPT NYC competition, New York City sought proposals for "micro-unit" housing. These affordable units will measure just 275 – 300 square feet, approximately the size of two parking spaces. At the same time across the country, there exists a trend toward increasing dimensions of living space, as well as increasingly prevalent levels of obesity. There is at the same time a debate over whether the city creates healthy individuals or whether the very nature of urban life attracts more active and healthy individuals. Taking these observations as its starting point, the studio seeks to explore the relationships between health and housing, through the investigation of stress, in all its meanings but especially as a physiological manifestation.

Structures: Beauty of Failure

G. Robert LeRicolais (1894-1977) examined the beauty of failures.ⁱ He considered the stress of the elements upon built form, including gravity, wind loads, shear, lateral forces, and strain. Extending his research, we can ask: what types of structure can respond to such stresses? Will a particular type of stress produce a formal response, and is this stress examined from the inside out or the outside in? We will explore structural concepts through model making, and challenge any concept of structural stress to address at the same time a particular position on the domestic.

Social Replaces Urban

Stress is also found across a wide range of urban settings, where new modes of communication and data exchange are constantly reshaping the idea of social relationships. If the social is replacing the urban for a certain group of people, what happens to the urban life of those whose daily interactions are not mediated through technology? Harlem, East Harlem, and the Bronx, the larger site of the studio, is arguably one of the most challenging places within the city for development due to the evolving culture, and rapid development, gentrification, and latent health stresses. And the specific site provokes questions about the very nature of socialization and urbanization within an intervention at the edge.ⁱⁱ

Urban

Similarly, urban infrastructures are also stressed from roads, bridges, highways, sewers, railroads, waterways, and maintenance systems. As the city builds and proposes new infrastructures, from Greenways to the 2nd Avenue subway line, how do these new infrastructures alleviate stresses? Alison Smithson (1928-93) wrote about the effects of stress upon public housing in her *Byelaws of Mental Health* and responded through the design of a "stress free zone" in the Robin Hood Gardens project by Alison and Peter Smithson (1923-2003). A simple hand sketch illustrates the influence of ideas of health upon both the architecture and larger urban plan of the project.ⁱⁱⁱ

Acts, Forms, and Ends

Stress offers a critical lens for further understanding housing, architecture, urbanism, site, structures, economics, infrastructures, and so on. The examples of LeRicolais and The Smithsons are but two references for the studio. Each team should collect their own references throughout the term. The studio can be thought of in three parts: Acts, Forms, and Ends. The first is *Acts*, where each student proactively questions architecture's performance through structures and technologies. *Forms* indicate a straightforward demonstration of knowledge and understanding through concepts of forms under different types of stress. Finally, *Ends* requires that these studies produce end results that will be critiqued and evaluated within a collective setting. In the end, architecture should produce new subjectivities for further exploration and questions typology within the city.

ⁱⁱ 1 <http://www.design.upenn.edu/archives/majorcollections/lericolais.html>

ⁱⁱⁱ <http://www.nytimes.com/2011/10/31/nyregion/east-harlem-landlords-keep-apartments-sealed-up.html?pagewanted=all>

ⁱⁱⁱ Smithson, A., *Byelaws for Mental Health*, *Architectural Design* 1960, no. 9, September, 356-357.

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Studio Statement, Adam Frampton

Part to whole

The relationship between parts and the whole has been a preoccupation, and perhaps cliché, for architectural thinking from Alberti to Venturi. In housing, the issue is fundamental. Conventionally, rooms (bedrooms, kitchens, bathrooms, and living spaces) are aggregated into apartments, which are in turn aggregated into buildings. The production of housing requires the repetition (or differentiation) and efficient consolidation of individual units of living into a larger whole. As such, housing demands the architect take a position relative to the question of the parts versus the whole. To what extent are individual parts expressed, and to what extent can a legibility of the whole exist? More broadly, this question also concerns the relationship between the individual and the collective, domestic and public, interior and exterior, and neighborhood and city.

The studio will focus on housing for an aging population, a term that in fact encompasses a broad demographic. In New York City, and the Bronx in particular, there is a high demand for affordable housing options for seniors, and, one might argue, an absence of architectural experimentation and inventive models that anticipate the future of aging and the changing health, abilities, interests, and lives of elderly people. Elderly housing may consist of various formats, including independent to assisted living, housing with live-in nursing care, and other more specialized facilities for residents with dementia. Individual units resemble anything from more conventional apartments to dormitory, hotel or hospital rooms, where functions like bathrooms and kitchens may be shared, not unlike contemporary co-living experiments often aimed at millennials and younger populations.

The studio will ask students to design for residents at different points in their lifespan, either through different types of units (parts) or the flexible adaptation of individual units over time. Moreover, elderly residents are to be integrated into a broader community within the project, providing intergenerational interaction and/or units that might accommodate two or even three generations. As such, the parts may be highly varied. This implies projects must depart from the repetition and typical formulations of studio, one bedroom, two bedroom, three bedroom, etc. as the conventional "parts" of housing. Given this premise, what are the new parts and models of aggregation, and how can the whole be re-constructed?

Our section will analyze Mies van der Rohe and Ludwig Hilberseimer's Lafayette Park in Detroit. Completed in 1963 and consisting of single-story courthouses, two-story townhouses, and high-rise apartment towers, Lafayette Park combines a range of different housing types (parts) into a single ensemble (whole), held together by a landscape designed by Alfred Caldwell. At the same time, in Mies' architecture, the expression of individual apartments and complexities of interior space are suppressed from the exterior, subsuming its parts into an architectural whole. We will examine Lafayette Park as an integrated project that appears to either intensify or collapse oppositions of part to whole, architecture to urbanism, built to unbuilt, infrastructure to landscape, and suburb to city.

We will also examine readings and critiques of Lafayette Park, from Detlef Mertins, Charles Waldheim, Albert Pope, and Pier Vittorio Aureli to the "post-occupancy evaluation" of Natasha Chandani, Danielle Aubert, and Lana Cavar. Despite its origins in the displacement of the Black Bottom community, and turbulent context of Detroit since 1967, Lafayette Park has persisted as a rare success of "urban renewal" to create a mixed income, racially integrated, and politically empowered community. In this sense, our analysis of Lafayette Park may provide insight into the possibilities of recovering a Modernist architectural project, or a framework for urban housing to provide a broader social vision for the city.

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Studio Statement, Daisy Ames

Alignment

This studio will problematize the concept of *alignment* (and of course, its implied opposite, *misalignment*), with an emphasis on reading site context and communicating a design language. Due to the way that social, economic and political agendas affect the urban planning in New York City, the routes taken during the design process often require a wide variety of architectural accommodations. The five boroughs of the City are comprised of housing typologies which range from luxury co-ops, private townhomes, apartment buildings, high rise condos, industrial loft conversions to short-term shelters. The city is currently balancing the construction of tall and slender skyscrapers for ultra-high net worth (UHNW) non-residents, while striving to meet government benchmarks to provide affordable housing for existing residents. Such simultaneities call into question the extent to which sociological and political initiatives are compatible, posing unique challenges for architects communicating effective design.

The heterogeneous factors that constitute the urban fabric of the Bronx interweave public and private, interior and exterior, as well as exposed structure and finished material. These collisions alternate between hard lines and surfaces to indeterminate zones and ownerships. For instance, while the distinction between “inside” and “outside” is defined by architecture, the context in which the architectural elements that are deployed directly affect their meaning. Furthermore, such delineations oscillate between the virtual and physical, producing experiences which require acute awareness of material, circulation, program, and structure to unearth the means by which space, light, and form are manifest.

Of the three domains of thought influencing this arena (urban design, planning, and architecture), the approach of this studio is architectural, and specifically based on notions of alignment. First, alignment is a creative tool for reading the context of a site; and second, alignment is a tool for communicating a design proposal. As architects and students of architecture, the *capacity to read*, and the *act of communicating* are essential components of an architectural project.

Reading Context:

There are three types of alignments students will be asked to look for when reading the context of our site: the social, the economic, and the political. Social alignment relates to existing public spaces and a building’s relationship to the street. Economic alignment refers to the source(s) of funding for neighborhood development, and where community funding is still needed. And finally, political alignment refers to the examination of government initiatives which either facilitate or stall neighborhood development, i.e. zoning codes and transferable development rights (TDRs).

Communicating Design:

Through a series of investigations, students will demonstrate that architecture *speaks* to those who experience it – regardless of how (i.e. by foot, car, bus, etc.). During these investigations, students will work closely with concepts of alignment to elicit design criteria which address the vernacular of the site, while at the same time innovating their own methods to produce form and meaning.

This semester, the studio will analyze Morphosis’ Madrid Social Housing Project. This project was completed in 2006 and is part of the Madrid Public Housing initiative located in the Province of Carabanchel, surrounded by other examples of contemporary housing. This particular project is unique in the scope of the Office’s prior work. Its urban form requires a layered reading of white, orthogonal, repetitive lattices, and the design utilizes loggias, green spaces, and brise-soleil to communicate a domestic scale.



Instructor: Eric Bunge, Adjunct Assistant Professor / Principal, nARCHITECTS

DENSITY & LIGHT

Version – Draft, August 7th, 2017



L: Ice cave, Iceland; R: Habitat Marocain, Casablanca, Andre Studer & Jean Hentsch, 1956

“Whatever is not stone is light.”

Native Stone, Octavio Paz

Our section will consider an unlikely pair of terms for inspiration in the design of contemporary housing: *density* and *light*. The one conjures metrics and efficiency— the concerns of urbanism, but also mass, matter, intensity, interiority, and potentially - darkness. The other similarly conjures up metrics and health, but also absence, openness and the outdoors. Can we reframe relationships between *density* and *light* to create new models for housing?

The history of innovation in housing might be viewed as an ongoing contest between these apparent opposites. Encompassing many of the preoccupations of 20th C modernism, this contest was enacted across many frameworks. These have ranged from zoning, health and public policy, to organizational models and typologies, to experiential qualities of housing. In 1916 the world’s first zoning resolution was implemented in New York City, establishing regulations limiting density to protect the light and air of urban dwellers both inside and outside buildings. A few years later, Le Corbusier famously enshrined light as a central tenet of Modern Architecture in terms that spanned from the rational to the (quasi) spiritual. How do we understand these terms today? As if in a chess game, increasing density seemingly requires a counter-move to increase light. Could the terms *density* and *light* be reconsidered and thought of together?

For planners and urbanists, the concept of density either descriptively measures, or prescriptively legislates, the relation between entities such as people or dwellings, and area. But as an ultimately abstract and too elastic a concept for our purposes, this notion of density poorly reflects spatial properties. In a basic and often quoted example, the same population density or FAR (floor area ratio) can be achieved

Instructor: Eric Bunge, Adjunct Assistant Professor / Principal, nARCHITECTS

with different building types, whether point tower, slab, or tightly packed houses. And one could offer the same critique of the way light in housing design is often understood: measured primarily in a quantitative way, often tied to real estate criteria of views, and rarely considered in relation to evolving cultural criteria. Could we reconsider the way we experience light in housing; when must it be unobstructed; when can it be filtered, diffuse, reflected?

As designers of contemporary housing, you will be challenged to develop your own approach to these terms throughout the semester, from concepts to organizational strategies, and from experience to representation. In the interest of seeing these as an inspiration for design, we will therefore approach the concepts of density and light more broadly, beyond the metrics of efficiency to less quantitative aspects, and in relation to each other. Our broad frameworks will include:

- Intensity: can we design for density of social interaction, or intensity?
- Organization: can we conceive of housing as a variably dense accumulation of architectural elements or systems - for example windows, skylights, balconies, courtyards, structure, furniture, stairs – or of voids?
- Materials: How can we use materials – whether heavy or delicate - to modulate the way we experience density and light?
- Techniques: whether carving, perforating, aggregating, layering, reflecting, atomizing, filtering or diffusing, we will consider design techniques that reframe relations between density and light.
- Representation: as a studio section we will investigate drawings and models that explore and communicate notions of density and light.

In summary, our studio section will challenge students to design housing that reframes issues of density and light in ways that are interesting to each group, and that can have the capacity to develop radical proposals for contemporary housing. We will consider a variety of examples of housing that have dealt with the issues of light in ways made possible by cultural practices, climate, and use of materials.

Limits. A limit can be understood as both restrictive (a scarcity, a rule) and expansive (a furthest extent, a frontier). These twinned meanings characterize the architectural challenge of housing. Housing is highly constrained by regulatory, economic and cultural expectations; it is also a medium for architectural debate and radical speculation on the physical and social form of the city. Feedback between constraint and speculation emerges from the fundamental role of housing in the production of the urban environment, which lends housing unique potential among architectural programs to be both prototypical and polemical.

Formal Limits. Architecture establishes physical limits. The material assemblies of a building or lines of a drawing delimit inside from outside, one space from another. The history of housing as a subject of architectural design--which cannot be disentangled from the social and economic transformations of modern urbanization--can be read through the ways in which these limits are defined and perceived to function. We can understand formal limits at multiple scales, and, through diagrams, drawings and models, teams will work deliberately at each of these scales to precisely develop the forms of their projects and of the spaces within and around them. Where does a building stop and the city start? Where does one unit stop and another start? Where does one interior space stop and another start? As becomes clear, the form of housing is bound up in its potential occupation, or program. Are exterior spaces public or private, and what do these terms mean? Do aggregations of units privilege the collective or the individual? Do the interior organizations of units reify normative family structures or lifestyles?

Disciplinary Limits. A discipline is the product of limits--boundaries and frontiers--between itself, adjacent disciplines and the unknown. Debates on housing turn on questions of the disciplinary limits of architecture. Should an architect envision new social structures or accommodate existing ones? Is an architect capable of, or responsible for, influencing the lives of those who inhabit a building? Beyond basic regulatory responsibilities for life safety, the limits of architecture remain open to question, and students will be expected to begin to articulate a position on the role of the architect in projecting the social life of housing. These questions must also be considered in light of the historical limits that constrain what it is possible to produce at a given moment in time. While students will be expected to study prior models of housing and the ways in which they continue to inform the present, teams will concomitantly work in the specific context of the present--with its material, technological and cultural constraints--to investigate what housing is, and can be, for both architecture and New York today.

Material and Representational Limits. We are limited by the tools that we use. We cannot reproduce historical forms or representations of housing simply because the materials and technologies used to achieve previous ambitions are no longer the materials or technologies available today. A similar appearance will mask a radically different substrate. In materializing and representing architectural form, the studio will investigate material limits as a problem of both quantity and performance (how much can be done with how little?) and representational limits as a problem of rhetoric and technique (should an architect represent the projected "life" of a building and, if so, by what means?). Students will be encouraged to investigate the limits of various architectural media--both building or drawing--in order to challenge the contemporary construction and representation, and, through these, the form, of housing.

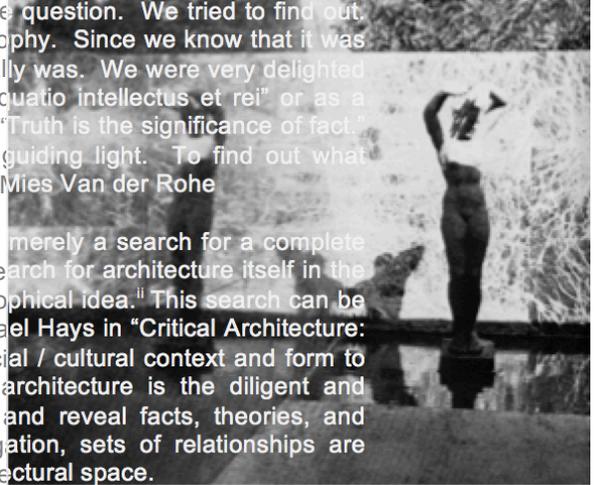
A Case Study in Limits. The studio will examine Steven Holl's Fukuoka housing project, which is notable, among other reasons, for its framing of open space within its site, its sidedness and typological hybridization, and its complex aggregation of unique reconfigurable units. We will consider the project in light of two of Holl's important early theoretical projects, which in turn reflect on the studio brief: *The Alphabetical City (Pamphlet #5)*, which examines the constraints that produced American urban infill typologies, notably variations of tenement housing and apartment blocks; and *Edge of a City (Pamphlet #13)*, which explores the potential of a series of speculative housing projects to frame discrete spaces at the margins of American urban sprawl. We will consider how the Fukuoka project delimits spaces at multiple scales, and how it might suggest an argument for architectural form to act as a model of new urban, and perhaps social, organizations.

ARCHITECTURE[RE]PRODUCTION

WHAT IF ARCHITECTURE__?

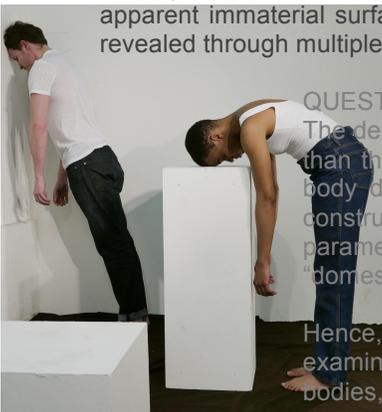
"It then became clear to me that it was not the task of architecture to invent form. I tried to understand what that task was. I asked Peter Behrens, but he could not give me an answer. He did not ask that question. The others said, 'What we build is architecture', but we weren't satisfied with this answer. Maybe they didn't understand the question. We tried to find out. We searched in the quarries of ancient and medieval philosophy. Since we know that it was a question of the truth, we tried to find out what the truth really was. We were very delighted to find a definition of truth by St. Thomas Aquinas: "Adequatio intellectus et rei" or as a modern philosopher expresses it in the language of today: "Truth is the significance of fact." I never forgot this. It was very helpful, and has been a guiding light. To find out what architecture really is took me fifty years --- half a century."ⁱ – Mies Van der Rohe

The full context of Mies' rumination reveals that his search was not merely a search for a complete and rational truth resolved in the construction of form but rather a search for architecture itself in the fullness of its complexities, ambiguities, and construction of a philosophical idea.ⁱⁱ This search can be described as the search for "critical architecture" defined by K. Michael Hays in "Critical Architecture: Between Culture and Form," as cutting across the dichotomy of social / cultural context and form to occupy a position that is *resistant* and *oppositional*. That is ... architecture is the diligent and systematic inquiry or investigation in order to discover, uncover, and reveal facts, theories, and applications. Furthermore, in the process of inquiry and investigation, sets of relationships are constructed between knowledge, social / cultural contexts, and architectural space.



QUESTIONS OF SPACE

Yet the current discussions regarding the re-disciplining of architecture and the need to reign in architecture from the discursive spaces of radical discourse and production leads away from critical architecture. For critical architecture is not dependent upon typology, compositional signatures, or representational quotations. The conducive context of Weimar Germany not only gave rise to the radical artistic avant-garde but the discursive space of the radical art also provided a place for Mies van der Rohe's experimentation and his two of most radical projects: the Friedrichstrasse Skyscraper (1919) project and the Glass Skyscraper Project (1922). This radicality materialized in Mies' Barcelona Pavilion (1929) where the filmic space of Richter's *Rhythmus 21* is set in architectural motion as implied volumetric space dissolves into planes, columns dematerialize as linear elements floating in space, transverse walls disappear and reappear in the play of reflections of material and apparent immaterial surfaces, and the presence of the "body" signified by Georg Kolbe's *Dancer* is revealed through multiple apparitions and identities.



QUESTIONS OF DOMESTICITY

The design of housing is much more than the fulfillment of political or social policy and equally more than the static solutions of architectural typologies. To consider the places and spaces where the body dwells is to consider the movement and physicality of the body as well as its functions, constructs, and identity within its socio-political, cultural, and technological contexts. These parameters have become increasingly fluid and thus result in questions of the very definitions of "domestic" and "domesticity" as relating to the idea of home, household, or family.

Hence, beginning with Kolbe's *Dancer* to the work of contemporary choreographers, the studio will examine contemporary issues of the body, dwelling in the city including abled-bodies, dis-abled bodies, gendered and non-gender conforming bodies, and other abject and non-compliant bodies.

Beginning study: Lake Shore Drive Apartments, Chicago, Mies van der Rohe, 1948 - 1951

ⁱ Peter Carter, "Mies van der Rohe An Appreciation on the Occasion of his 75th Birthday, *Architectural Design*, v. 31 (Mar. 1961) p. 97.

ⁱⁱ Professor Kenneth Frampton sites this statement from Mies van der Rohe in *Modern Architecture: A Critical History* to establish the significance of fact in Mies' rational tectonic language. This rational tectonic language could be confounded, as Frampton points out, by the ambiguities and indescribable spatial and material qualities present in such works as the Barcelona Pavilion.

Hilary Sample, Housing Studio Coordinator

Galia Solomonoff, Studio Critic, galia@solomonoff.com

Housing: Dilemmas of the Sharing Era



Interior, WeWork, Washington DC

“The first ‘sharing economy’ organizations allowed members to timeshare things such as summer homes, cars or power tools, rather than owning one each and leaving it idle most of the time. In their purest form, such groups were ‘peer-to-peer’: self-organizing, with no central authority. Once a for-profit company is set up to handle the logistics – such as [Zipcar](#), Uber, Airbnb, WeWork – however, the notion of ‘sharing’ is arguably already out of the window. Still, there remained the kernel of a communitarian idea in the origin of Airbnb, founded by two tech workers who rented out airbeds in their spare rooms for a conference, and thought there might be a market. Airbnb’s marketing still plays on the feelings of virtuous and adventurous sociability in the idea of a ‘guest’ staying in a spare room of the ‘host’s’ home. Yet, as [Tom Slee’s superbly argued book *What’s Yours is Mine*](#) points out, the vast majority of Airbnb’s business is now ‘entire home’ rentals: self-contained flats or villas. Long-term renters in cities such as San Francisco are being forced out by landlords who see more profit in short-term Airbnb stays...What is explicitly not shared by any of the poster children of the ‘sharing economy’ is *responsibility*.”

Steven Poole, *The Guardian*, April 2, 2016, a review of Tom Slee’s book, “What’s Yours is Mine”

Hilary Sample, Housing Studio Coordinator

Galia Solomonoff, Studio Critic, galia@solomonoff.com

Throughout evolution, whether we hunt, gather or code, humans have relied on each other's strength, talent, and expertise. Now that sharing—cars, work spaces, living spaces, tools, child care, elder care—is on the rise, what is at stake for each one of us? How can society maximize efficiency of resources while maintaining choice, allowing individuation and freedom of expression? How do we maintain the link between freedom and responsibility? How can housing and public space be made better, for more people, through sharing?

By **better**, we mean: allowing more opportunity for expression, creativity, wellness, efficiency and a new kind of fluency. A fluency where each person can access what they need, and give back what they produce; where gender differences are attenuated, work and leisure are continuous, one does what one is best at, and things get done more efficiently and at higher level than ever before.

The current disparity of wealth and extreme inequality are understood as obstacles in the advancement of such a fluent society. While few have multiple, luxurious, unused homes, many more become homeless, suffering in the face of growing environmental extremes. Formulating affordable housing solutions in the face of this growing disparity has proven a challenge.



Anti-UBER protest, London, August 6, 2017

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Our housing studio will study the current polemics of the sharing economy, and aim to integrate housing with contemporary culture. We will move beyond the tower-in-the-park housing scheme, and propose new hybrids that amend surrounding landscapes and cultural contexts.

We will aim for high-density, low-rise, environmentally-sound and sustainable development, with shared access to natural light, air and outdoor space. Our studio will consider the value of sharing and not, and try to understand both sides.

Our view is that sharing in housing, culture, sports and education offers many advantages, yet requires a clear understanding of responsibilities and investments in education. In terms of investment, our studio will test the idea that a fraction of proactive investment can produce substantial aggregate improvements.

Our studio will follow the three States of Housing assignments, outlined below, beginning with an urban and typological analysis; followed by a 10-week design project. The studio is organized by two principal means: research and analysis; and architectural design.

1. The first assignment will focus on site, infrastructure, and typology using a cross section from Manhattan to the Bronx.
2. The second assignment will examine the architecture of housing units, building programs and systems at VM Housing, by BIG/JDS, in Copenhagen, Denmark, 2008.
3. The final project will consist of designing high-density, mixed-use housing and public space integrated with Art-Culture-Urban networks.

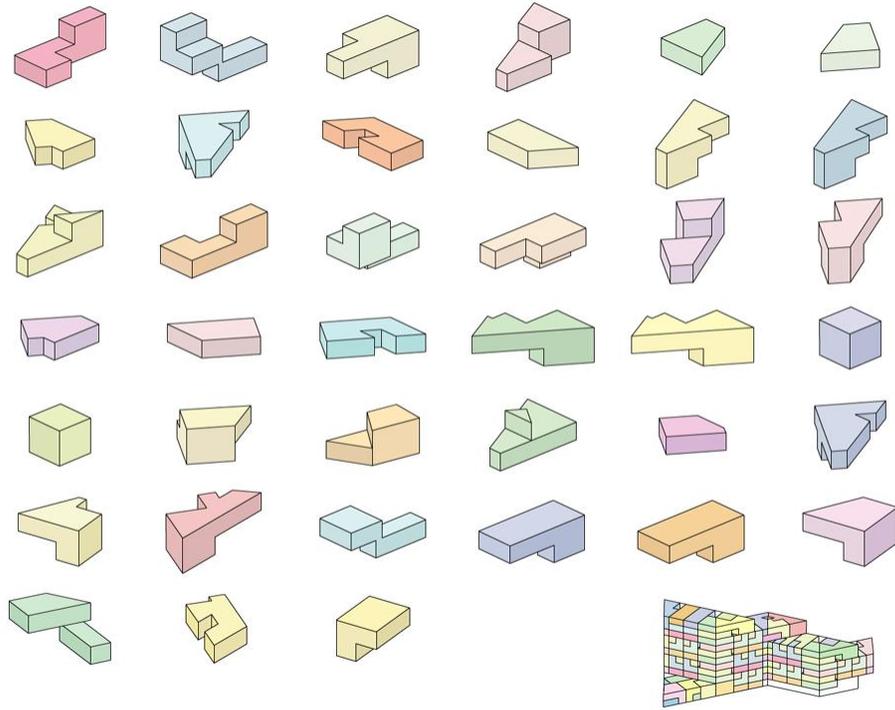
Each assignment builds upon the previous one: starting with the urban scale, zooming into the dwelling unit, and finally integrating the different systems into the larger context of the city.

With 7 million inhabitants and 28 million visitors annually, New York constantly shares its housing types. Through an ongoing discussion and team-based projects, we will speculate on the potential for contemporary urban housing, explore models of repetition and difference, and investigate the effects of seriality, monumentality and their relationship to the ever-changing city fabric.

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Kit of parts, VM Housing, BIG/JDS, Copenhagen, Denmark, 2008

Studio Statement, Jinhee Park

'Micro Urbanism'

As our cities rapidly densify it is undeniable that we now need new forms of urbanism to address new demands. How can a new conception of housing be conceived so that it not only provides efficient space and economical value but also provides flexibility for changing demographics and social values? Micro-Urbanism offers radical flexibility within existing cities in the face of rapid change caused by political, economic, and cultural forces. It reformulates relationships between the essential elements of a city at a finer grain. Instead of the broad generalist descriptions of housing, retail, culture, etc. that current modes of urbanism are based on, understanding spatial and programmatic relationships as *activities* at the micro scale opens up new possibilities of collaboration, environmental performance, and urban efficiency. This studio will aim to redefine value by new innovative terms that each studio member will invent guided by 10 principles below. Beginning from the human scale instead of the overall aerial view, we will generate 'fragments' that nonetheless have embedded in them new social/cultural/economic possibilities. In this case 'Micro' does not necessarily mean 'small,' instead it is about accommodating interrelated variables by breaking down to essential elements to maximize their effect. Now with rapid social adaptation to advanced technology, creating a sense of publicity and privacy can be handled in many other ways. Spaces can now hybridize. Commercial and institutional spaces are being used as surrogate living rooms calling into question of what is 'domestic.' Individuality and community is achieved not through generic space, but paradoxically through designing highly specific conditions.

10 Principles of Micro-Urbanism

1. Physical / Perceptual (define space by its quality rather than its quantity)

The pressure of real estate development artificial maps literal size onto the 'value' of space. Instead the role of perception can augment spatial experience and inhabitation.

2. Owning / Sharing (support ownership to create sharing)

when taken to the extreme, ownership creates programmatic redundancy and material and energy waste. Through gradations of privacy and publicity, new productive social relationships and interdependencies can be gained while at the same time decreasing the energy footprints.

3. Contracting / Expanding (use contraction to achieve expansion)

By contracting multiple programs into more intense alliances and overlapping patterns, space can be expanded rather than subdivided into smaller that in the end inhabit more volume.

4. Timing / Programming (program with time to avoid underutilized space)

Not all spaces must be used at all times. By aligning use and timing, spatial redundancy can be minimized.

5. Division / Continuity (divide with finer grain to create continuity)

Instead of broad descriptions of housing, retail, culture, etc. of modes of urbanism, understanding spatial and programmatic relationships as *activities* at the micro scale opens up new possibilities of collaboration, environmental performance, and urban efficiency.

6. Local / Global (be local to be global)

Alliances between local infrastructure, economies, and social relationships create momentum when viewed from the overall urban framework allowing the local to create culture and resources rather than merely consuming it.

7. Future / Past (use the past to create the future)

Instead of tabula rasa urbanism that starts from a condition of erasure, existing conditions can be leveraged for their specificity into new infrastructures, spaces, and programs.

8. Diversity / Density (use density to create diversity)

Instead of density merely fitting more inhabitants into a smaller space, it can be utilized to gain programmatic and spatial diversity.

9. Security / Amenity (turn oppressive control into public amenity)

While the one-way gathering of information of the 'smart city,' threatens privacy, multi-way networks can turn the concept of security into a form of real and virtual public space and amenity.

10. Curated Use / Mixed Use (curate programs and activities to maximize synergies)

The concept of mixed-use as a general framework can be radically sharpened so that specific curation at the fine grain scale can create greater synergies socially and economically.