Columbia University in the City of New York
Graduate School of Architecture, Planning and Preservation

Designing for Zero: Housing, Mobility, Energy

Or Innovation at the Nexus of the Last Centuries Hardware

Spring 2020
Michael Bell. Professor of Architecture

Introduction

This course is intended to help set a stage for innovation in housing. The goal is to establish a scope of means and views into what constitutes how we manifest housing today but also how its interrelated to energy, to mobility and to where and how innovation has occurred. To do this we will follow a historical path but a curated path that relies on a series of parallel studies and withholds directly relying on any one pivot point. The path is based in part on parallel path engineering and creativity. We will open the course with a discussion of these practices.

Housing provision and delivery is a complex combination of factors, forces, and fluxes - from people and policy, to economics and finance, to material and fabrication, to planning and design - that is seen as one of the largest drivers in our economy. At few moments in the last 50 years has the provision of housing in our country been at a greater point of contrast: simultaneously profits from mortgages and real estate investment are at near-record highs and public subsidies are at all-time lows; technological advances are fabrication efficiencies should be driving the cost of construction lower, yet housing costs as a percentage of household income are the highest they have ever been; for a majority of Americans their home is their single largest asset and frequently their only investment, meanwhile after the bubble burst more than half of the households in America could not afford the house they lived in. Through various fields of research related to housing and methodologies that allow us to better understand the spatial and temporal components of these various factors, forces, and fluxes — both individually, and as they relate to one another — we as architects, planners, developers, and designers hold a unique position from which not only can many of these elements be better understood, but by exploring, designing, and developing new modes, theories, and practices of housing provision, fabrication, and delivery we can begin to influence this landscape and create new spaces of housing at this pivotal moment.

“We should concentrate our work, not only to a separated housing problem, but housing involved in our daily work and all the other functions of the city.” Alvar Aalto

Questions addressed in this Seminar

Does a near century of federal housing policy and its attempts to instigate, provide and incentivize housing for the poor and for lower income households map onto or into the new future of infrastructure, energy and mobility technologies?

Or do we need fully new means to imagine what affordable and poverty housing means and how we imagine who designs it, how policy supports it, and who it might serve?

Our seminar will spend half the semester tracing the past century’s evolution in housing and public housing policy and design means. The second half the semester will be spent focused on new technologies in energy, mobility and in how these factors could alter the future of public housing.

This seminar will explore the decreased direct role direct federal expenditures play in lower-income and public housing development in the United States since the advent in the 1980’s of low-income housing tax credits (LIHTC) and other tax-based incentives for housing development.

The seminar lectures will address how changes in funding mechanisms have affected not only the development and design of lower-income and public housing but also how they these changes in means have been perceived and what impact they had on the engagement of planning and architecture practices with issues of poverty and low-income or affordable housing.

With a focus on parallel evolutions in architectural design and theory since the 1980’s that has often seemed to neglect

housing as a zone of experimentation, the seminar will explore how planning and architectural educations could do more to produce a counter to the status quo in all forms of housing production. The goal is re-imagining architecture and planning capabilities within a discussion of the financial practices as well the political philosophies of these shifts—more accurately within the seeming loss of an ability to critically discuss equity issues that many of the tax incentive practices often seem to dissimulate into market development models. Affordable housing as a product of tax credits, multi-tiered funding sources, and an architectural guise of "fitting in" with the quasi-vernacular of broader status quo developer housing models (and its constituency) has increasingly made it difficult to discuss the deeper meaning of both the political underpinnings of these policy shifts but also the potential of architectural and planning practices to affect the outcome—to enter the debate.

Areas of Research and Lectures:

Our seminar will spend half the semester tracing the past century's evolution in housing and public housing policy and design means. The second half the semester will be spent focused on new technologies in energy, mobility and in how these factors could alter the future of public housing.

The seminar will be based on weekly lectures and discussion. Students will be asked to do extensive reading and be prepared to discuss the content. Each member of the seminar will produce a research paper based on presenting a future of the seminar content.

-- What is public housing and why re-examine it today?

-- What were the key formative principles in public housing?

-- Should we start with the current conditions or return to the origins? Where are the origins? (De-mystify)

-- Deconstructing the Perceived Notions of Public Housing as Failed

-- Architecture and the Flow of Money; flow of space—The Post Bretton Woods global city.

-- Losing Support: Public Housing and Transformed

-- Topology: What is the *shape—the geographic form* - of poverty today?

-- The Construction of the Local / Disaggregation of Aid and Subsidy

-- A false memory thwarts a closer look at history.

-- The Foreclosure Crisis and the State of Housing after the Crash

-- How does land vs. structure values interrelate in affordable housing and housing. What did mobility contribute to this dichotomy during the past century?

-- After LIHTC: While the Low-Income Housing Tax Credit may seem an arcane branch of housing policy they also represent a scenario where federal roles in social advocacy (social ethics) and housing production often operate with their hand's tied; while great expenditures are in fact allocated they are injected into a status quo of housing development, and capital practices. In short, they are not seen as innovation engines but a means to ameliorate a market rather than alter its momentum. They seek to expand who the market serves but not to alter the market or the assets it distributes. Can we redesign this process? Indeed, do we see a future where Cabinet-level agencies, DOE, DOT or HUD are not only outmoded but where their deep economic resources need to be redesigned? The next decade portends as much as $85 billion in LIHTC allocations; what team could make the case for new means to drive innovation with even a small portion of these funds? And who could benefit from the innovation these funds might bring?

How can Mobility, Infrastructure, and Energy Innovations Re-Create Housing Markets?

How does a rapidly changing energy infrastructure alter what we imagine for the future of cities and urban development?

The matrix of housing and mobility has affected architecture, urban development, housing markets, real estate mechanisms in a relatively consistent way for most of the past 75 years. What can we say about the future mechanisms -- do we know what will drive settlement?

Seminar Requirements

Research: The seminar will take on specific research areas and each seminar member will be asked to develop an expertise in one of these areas. The outline provided below is a sample of topics areas but not the course will develop other options and areas with member input.

Faculty Lectures: The faculty will offer lectures on historical and current issues in housing and how government's role in creating housing has been determined and enacted since the advent of Public Housing in the 1930's.

The seminar is open to all program within GSAPP and is designed to allow a greater depth of knowledge in housing and public housing but also affordable housing.

Seminar Reading

Canvas: Readings are organized on Canvas in a series of folders that include:

1. Architectural History and Theory (work on themes of territory, subjectivity, architectural agency and authorship)

2. Critical Writing on Housing Policy

3. Legal or Governmental/Congressional Documents

Please note that these files will change and evolve as new material is added. In the widest sense the seminar will try to bridge these three genres of writing. The way we bridge this is a key part of our work and as such the essays in particular can and will change.

Faculty

Michael Bell is Professor of Architecture at Columbia University Graduate School of Architecture Planning and Preservation. Bell is founding Chair of the Columbia Conference on Architecture, Engineering and Materials, a multi-year research program hosted at GSAPP in coordination with Columbia's Fu Foundation School of Engineering and Applied Science and the Institute for Lightweight Structures and Conceptual Design (ILEK) at the University of Stuttgart. Bell served as Director, Master of Architecture, Core Design Studios, (2000-14) and the Coordinator of the GSAPP Housing Design Studios (2000-11). This seminar will fuse work from housing and development, design and design theory, and engineering and new crossovers between architecture and materials/engineering.

A sample of research we will explore in this seminar:

The Columbia Conference on Architecture, Engineering, and Materials:

http://visibleweather.com/images/ET_program_FV.pdf
http://visibleweather.com/images/Solid_States_Bell.pdf
http://visibleweather.com/images/Postductility_Bell_Program.pdf
http://visibleweather.com/images/Plastics_program_FV.pdf

Bell's architectural design has been commissioned/exhibited by The Museum of Modern Art, New York; The Venice Biennale; the Architectural League of New York; the University Art Museum, Berkeley and has been shown in museums and galleries in Europe, Mexico, and China. Architectural design by Bell is included in the Permanent Collection of the San Francisco Museum of Modern Art. His Gefter Press / Binocular House is included in American Masterwork Houses of the 20th and 21st Century by Kenneth Frampton. Bell has received four Progressive Architecture Awards.

Books by Michael Bell include Engineered Transparency: The Technical, Visual, and Spatial Effects of Glass; Solid States: Concrete in Transition; Post-Ductility: Metals in Architecture and Engineering; Permanent Change: Plastics in Architecture and Engineering; 16 Houses: Designing the Public's Private House; Michael Bell: Space Replaces Us: Essays and Projects on the City; and Slow Space. Bell is the editor of a monograph on the architecture of Stanley Saitowitz.

Bell taught at the University of California at Berkeley (1987-94) and Rice University (1994-99) and held visiting professorships at the Harvard University, Graduate School of Design; Cornell University, School of Architecture; the University of Michigan, Saarinen Visiting Professor of Architecture; and Berkeley, the Howard A. Friedman Professor of Practice in Architecture. Bell is a former Fellow of the Joint Center for Housing Studies, Harvard University (2011-13).

During 2016/17 Bell was Visiting Professor at the Stanford University, School of Engineering, where he collaborates with the Center for Design Research in the Department of Mechanical Engineering.
Bell is a founder of the Urban Futures project at Stanford University with Michael Shanks, Professor of Classics and the d-School, Stanford University. He is also a senior member of the Pao Sustainable Engineering and Materials Laboratory at Columbia University.

Michael Bell received a Master of Architecture degree from the University of California, Berkeley and a Bachelor of Science degree from the Catholic University of America in Washington DC. He established his practice in Berkeley and San Francisco, California. Today the practice also includes Eunjeong Seong and is based in New York City and Berkeley, California.

Housing Links

https://www.amazon.com/Michael%20Bell/e/B001K7V4QG/ref=la_B001K7V4QG_st?rh=n%3A283155%2Cp_82%3AB001K7V4QG&qid=1510795766&sort=date-desc-rank (Links to an external site.)Links to an external site.
http://www.moma.org/interactives/exhibitions/2012/foreclosed/temple_terrace (Links to an external site.)Links to an external site.
http://www.houstonpress.com/2000-11-09/news/not-your-standard-issue/full/ (Links to an external site.)Links to an external site. (Links to an external site.)Links to an external site.
https://ced.berkeley.edu/ced/faculty-staff/michael-bell (Links to an external site.)

PART ZERO INTRODUCTION

JANUARY 23 Why Zero? Zero as Freedom

The designer sees through walls

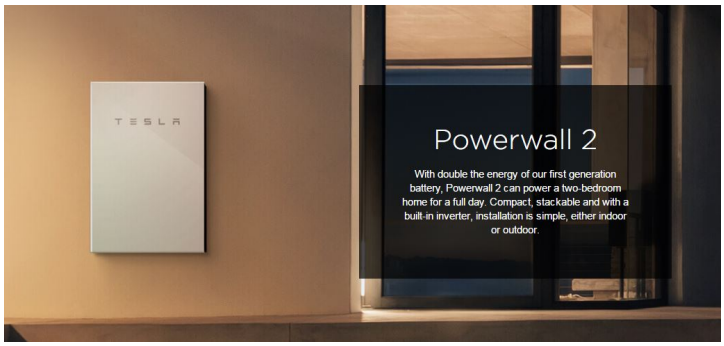
the territory of: conflating architecture, energy, mobility

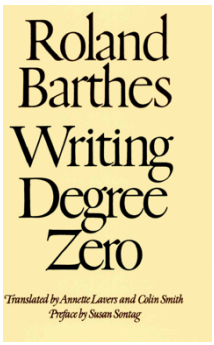
what is housing and when did it emerge?

what is mobility?

At most American Universities Planning and Architecture have been considered to be unique and separate concerns; divisions pointed to a role for planning as based in policy, while the role for architecture has been based in design. Yet at most schools today architectural design studios frequently engage in planning, and in fact often make attempts to analyze policy, and to map or diagram urban configurations. There has been a tremendous shift in how architects imagine their relationship to large-scale work, and a host of new terms have been initiated in the last 20 years to lend agency to architects who do want to engage in work at the urban level. Yet architects rarely use the literal empirical methods of planners—or perform more the calibrated work in demographics or research that planner use. They do however, find themselves using new means in representation to visualize, and to examine urban space, urban demographics—systems of urban formation that have literal as well as less than overtly physical manifestations are increasingly made pliant and legible in architectural analysis. G.I.S. allow a mapping of income levels, commuting times, race, income—these reveal themselves quite easily—but it's the comparative work that lends insight and reveals subtle shapes, surfaces of urban life that are both immense and infrastructural—technological; yet also, intimate and tremendously private.

Planners are trained in the historical trends of architecture but have little formal contact with design pedagogy, despite planning discipline's presence in architecture programs. Increasingly, architectural design is a service commodity that is purchased like other elements of the development industry such as engineering, surveying and legal representation. In development, the role of the architect is subordinate to zoning regulations, financing rules and life cycle limitations. A new generation of young architects has been assembling new means of urban analysis, as well as new means of visualization, as well as fabrication techniques to conceive, and to convince a wider public of what is possible and indeed what is seen as imperative. The scale of questions asked, projects conceived, and social /political engagement is tremendously magnified even as our work and those it affects become more immediate and often personal. This has allowed and instigated a re-entry into questions whose scale is immense, yet that we imagine we can address with intimacy and new agency.





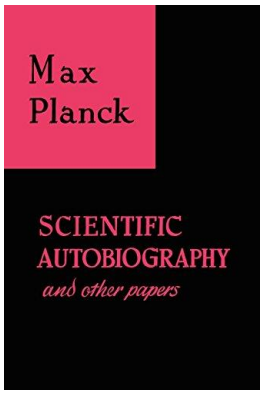
Net Zero and Beyond: Arbitrage: Energy vs. Aesthetics. Zero as Freedom.

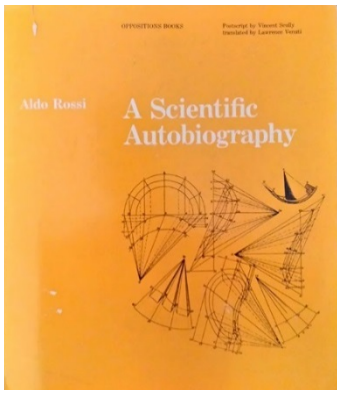
Commodity Physics/Chemistry: Tesla and Solar City have announced Powerwall 2: a second installment and innovation of their home battery. *Powerwall* is a stationary storage device for electricity that couples with a new Tesla/Solar City *Solar Roof* (a new glass roof tile/photovoltaic panel).

While the battery, *Powerwall*, is presented as retrofitted to housing (to architecture), the new *Solar Roof* is in effect an architectural element. Mike Pilliod, Tesla engineer, states--the *Solar Roof* is "glass as a roofing material." This is not a roof with an added on (attached) photovoltaic panel. Tesla's energy protocols here literally and conceptually become part of the architecture and in effect causes a reconstitution of what we mean by architectural energy—by the physics of architecture and how it modulates, carries and maintains every aspect of energy.

While the fusion of roof and photovoltaics, home battery and electric mobility linked in a nested diagram assure a coherent transaction, the coupling nonetheless promises to upend housing and urban development. A quiet and elegant innovation in power production, storage and consumption capable of revealing the underlying instabilities in housing and mobility infrastructures (from road to mortgages..). Will the *Powerwall's* next iteration become an architectural wall rather than a wall with attached battery? Does the wall itself become photovoltaic: structural as well as thermal? What follows as the automobile and house increasingly fuse as products and spaces? As financial assets and energy instruments that are simultaneously characters in the development of real estate?

Designing Energy is designing architecture.



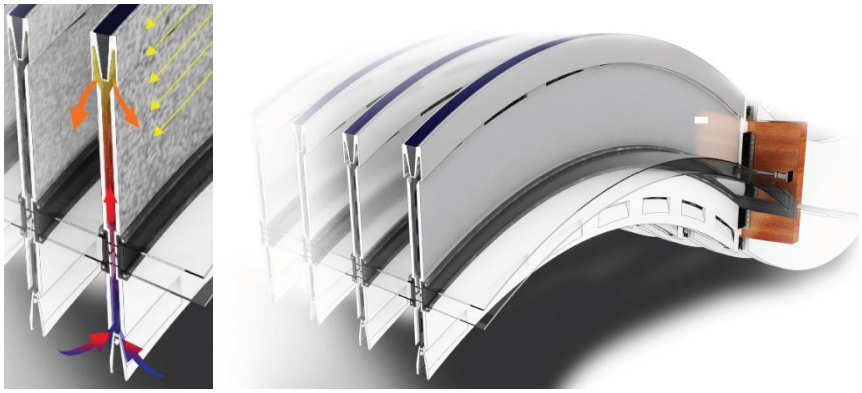


(the) Conservation of Energy (is not a new term for architecture)

Aldo Rossi opened his 1981 book, *A Scientific Autobiography*, with an existential yet physical concern and in reference to Max Planck's 1949 publication *Scientific Autobiography and other papers*. Rossi refers his architectural reader to Planck and the physicist reaction to a story he had been told as a young student enunciating the principle of the *conservation of energy*. Planck learns the principle by way of a story of a stone falling to the earth from its place within an architectural wall. The latent of energy accrued in lifting the stone to its height within the wall was released to tragic effect—it killed a passerby.

Rossi's autobiography characterized by a generation of academics as "melancholy" was shaped within a disillusionment with technical progress and the potential of society to change from within its later day scientific/technical, capital driven means. Rossi's manuscript nonetheless infused or one should say witnessed in architecture a latent and unrevealed energy. In the face of a visually fragmented, inchoate, then late modern city--forged by a century of industrial evolution—architecture and the city were in large part revealed by their own disregard for human presence. The energy stored inside architecture (at its making) may allow a semblance of shelter of human life (within its walls) but it also disregards its inhabitants in the seeming monotony of its own self-perpetuation. Building do fail—decay--aside the passage of life but in Rossi's appraisal the city was *virtually* autonomous; a self-regulated entity that ran parallel to but disregarded its inhabitants lives--buildings endure beyond and precede human presence registering generations but seemingly withholding the promise of their making and embedded energy and labor. While not his goal, Rossi often was seen as a force that instigated a deep distrust of technology in architecture, and more so, a turning away from the capital or scientific aspects of materials in architecture.

Yet it would be a mistake to say Rossi did not sense or intuit the transformative aspects of technology; his writing—exhibited a curiosity about entropy and in part concealed a deep intuition about physics and energy. A *scientific autobiography* begins with architecture's stones (material and energy) re-enabled as gravitational life and then death. Rossi wanted to access the energy latent in architecture, even the worst energies. If this was an amateur physics, it was also a way beyond an otherwise and inevitably fragmented image of the world, of the city. Instead, what was possible was a sensing and recovery of the embedded energy—labor and material weight—of an essential architectural (social) history. Rossi saw this vision (shared by others, not just himself) as a way to achieve even a momentary order (in the face of a chaotic world). His invocation of an intuited physics was in many ways a confrontation with the semiotic world—at what seemed a peak orchestration of ritualized television, print media and advertising, he brought forth a deep counter project that hoped to give the built city more coherence. A deeper visual logic, in effect revealed, in a seeing *through* the fragmentation and into its materials (matter) themselves. This was not so much a conversation of energy as a recovery of its presence—seeing the city as a prior allocation of energy--and perhaps what it could have been if other distributions (and their impacts) prevailed.



Proposal: Yan Chan, Architecture of the Creative Space: Roof Beam as PV and Powerwall: photovoltaic strip, battery and air-exchange. Columbia GSAPP, Mike Pilliod, Wills Sweney, Tesla, Spring 2016.

PART ONE INNOVATION: ECONOMY AND POLICY

January 30 WHAT IS INNOVATION IN HOUSING (and what stops it)
Anti-innovation The Tax Credit, Deferred Revenue
85 Billion Dollars: A Place to Start
Parallel Path
RE-Monetize vs. New Assets (TAS vs the Automobile)

This section of the seminar will explore the decreased role direct federal expenditures play in lower-income and public housing development in the United States since the advent in the 1980's of low-income housing tax credits (LIHTC) and other tax based incentives for housing development.

The seminar lectures will address how changes in funding mechanisms have affected not only the development and design of lower-income and public housing, but also how they these changes in means have been perceived and what impact they had on the engagement of planning and architecture practices with issues of poverty and low-income or affordable housing.

With a focus on parallel evolutions in architectural design and theory since the 1980's that has often seemed to neglect housing as a zone of experimentation the seminar will explore how planning and architectural educations could do more to produce a counter to the status quo in all forms of housing production. The goal is re-imagining architecture and planning capabilities within a discussion of the financial practices as well the political philosophies of these shifts—more accurately within the seeming loss of an ability to critically discuss equity issues that many of the tax incentive practices often seem to dissimulate into market development models. Affordable housing as a product of tax credits, multi-tiered funding sources, and an architectural guise of "fitting in" with the quasi-vernacular of broader status quo developer housing models (and its constituency) has increasingly made it difficult to discuss the deeper meaning of both the political underpinnings of these policy shifts but also the potential of architectural and planning practices to affect the outcome—to enter the debate.

Housing provision and delivery is a complex combination of factors, forces, and fluxes - from people and policy, to economics and finance, to material and fabrication, to planning and design - that is seen as one of the largest drivers in our economy. At few moments in the last 50 years has the provision of housing in our country been at a greater point of contrast: simultaneously profits from mortgages and real estate investment are at near-record highs and public subsidies are at all-time lows; technological advances are fabrication efficiencies should be driving the cost of construction lower, yet housing costs as a percentage of household income are the highest they have ever been; for a majority of Americans their home is their single largest asset and frequently their only investment, meanwhile after the bubble burst more than half of the households in America could not afford the house they lived in. Through various fields of research related to housing and methodologies that allow us to better understand the spatial and temporal components of these various factors, forces, and fluxes — both individually, and as they relate to one another — we as architects, planners, developers, and designers hold a unique position from which not only can many of these elements be better understood, but by exploring, designing, and developing new modes, theories, and practices of housing provision, fabrication, and delivery we can begin to influence this landscape and create new spaces of housing at this pivotal moment.

Innovation Stands Still (the removal of motion)

- *At $6,425.44 billion the 2017 National Science Foundation budget request submitted to Congress is less than the $6.7 billion annual budget allocated to Low Income Housing Tax Credits (LIHTC). While one budget underwrites research in the sciences, the other ameliorates real estate development costs in an effort to increase housing affordability. The NSF budget is a direct expenditure; LIHTC funds takes the form of deferred revenue—the federal government forgoes income by way of a tax credit that is syndicated from a nonprofit builder to a for profit corporation. As new technical, i.e., scientific means alter housing affordability can we imagine the funding streams intended for housing (The annual budget for Housing and Urban Development is $48 billion) being re-routed to scientific research or more so to a new means of support for housing that is less based in real estate practices and more firmly based in the sciences and technical innovation. To be specific: Does a home battery/stationary energy storage coupled with a solar installation and an electric vehicle--a conflation of housing and mobility energy—allow us to imagine housing monies and their social goals as a new*

form of design and technical research? Do we instigate new assets and with it new design and capitalization potentials?

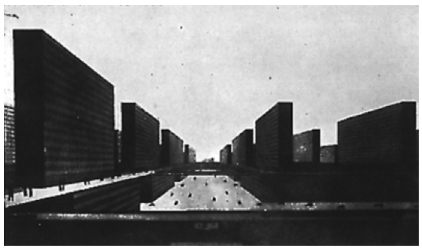
- *While the Low Income Housing Tax Credit may seem an arcane branch of housing policy they also represent a scenario where federal roles in social advocacy (social ethics) and housing production often operate with their hand's tied; while great expenditures are in fact allocated they are injected into a status quo of housing development, and capital practices. In short they are not seen as innovation engines but a means to ameliorate a market rather than alter its momentum. They seek to expand who the market serves but not to alter the market or the assets it distributes. Can we redesign this process? Indeed, do we see a future where Cabinet level agencies, DOE, DOT or HUD are not only outmoded but where their deep economic resources need to be redesigned. The next decade portends as much as $85 billion in LIHTC allocations; what team could make the case for new means to drive innovation with even a small portion of these funds? And who could benefit from the innovation these funds might bring?*

Feb 6 HOUSING 1934 – 37: THE HEALTH OF THE NATION
Discipline and the price per room
Housing, Banking, Regulation: The Case of Senator Steagall

1. The United States Public Housing and Banking Reform: 1934
2. The Wagner-Steagall Act / the Glass-Steagall Act
3. Housing Act 1937
4. What is HOPE VI (a recent pivot point?)
5. What was modern Public Housing in 37 / what was it in 49?
6. Central Planning and Architectural Design Find Form

The Health of the Nation. The United States Housing Act of 1937—funded by the Wagner Steagall Act of 1934—allocated as much as 800,000,000 dollars in the form of federal loans to states to develop low-income housing. In New York the prospect of 300,000,000 dollars in new federally provided funds loomed and the (then) recently formed New York Housing Authority became an epicenter of urban development and design. Public housing became a major "new source—perhaps the great new source— of outside money" (Citation: Robert A.M. Stern) flowing into New York and whether one was interested in housing or not, the revenue stream was to become a major force of urban, political and social change.

"Public housing must not be used to regiment the tenants...poverty is the not the sin of the poor; it is the sin of society," claimed Butler.



Ludwig Hilberseimer, "Une ville verticale", perspective d'une rue est-ouest, 1924.
The formal and spatial models assumed by Public Housing never have been fully reconciled with the U.S. based political or racial aspects of Public Housing, yet neither has Public Housing ever been a consistent entity — Public Housing in the U.S. has evolved dramatically in terms of its policy and financial means.

The shape these funds would take was to become a matter of architecture and planning; for the next thirty-four years housing would be a central focus of urban expenditure and urban policy. Indeed, the design of federally funded housing was to a large degree the design of the city itself. The implications of housing planning, financing and ultimately its architectural design have been at the root of issues that range from the construction of class and race divisions to mental health and social strife. Housing policies and architectural design have instigated major changes in zoning and building massing, and have been at times the most poignant testing grounds for design ideas that began in the realm of the avant-garde and found themselves constructed in the very real situation of poverty, segregation and race relations. Housing

prototypes by Le Corbusier's (The City of Tomorrow) published a decade earlier in 1924, became instrumental tools for "slum clearance;" in the early years of the New York Housing Authority tens of thousands of tenements were destroyed with the goal of "un-slumming" the city. Then chairman of the Housing Authority, Edmond Borgia Butler, directly linked housing development with social and political change in claiming that "to justify further public housing, it is necessary to base public housing, on something more secure than improvement of the physical condition of the city, by substituting new bricks, mortar and steel for old."

In the United States, low-income and poverty housing, initiated under the New Deal never found ready public acceptance -and the transformation of these provisions in some sense does not surprise. The scope and speed of this transformation does however instigate a critical set of questions, and in particular suggests that it would be advantageous for U.S. housing to now be understood as parallel to conditions in emerging economies worldwide; that is, as similar to situations where the safety net of public or state assistance is also not available, and indeed has never been available, to constituencies that are struggling in the face of demanding and surging market forces.

Fast Forward: Between 1996 and 2001, more than fifty-one thousand federal public housing units were razed or converted to quasi-traditional forms of market rate ownership housing. Most of this literal transformation-directed to a national network of U.S. Housing Authority sites-was done through the HUD, and in particular under the HOPE VI program, but the wider profile of this shift paints housing policy as increasingly being realized within market practices, and it increasingly signaled that lower-income and poverty constituencies in the United States urban centers, would increasingly compete for resources within the markets.

Engineered Constituencies: Policy, Flow and Change:
NYCHA, Prospect Plaza Redevelopment, Brooklyn, NY 2005. HOPE VI redevelopment altered the makeup of social constituencies in literal and demographic structure.

February 13 HOUSING 1949 – 54 SUBSIDIZING THE CITY DURING THE RISE OF THE SUBURBS

Should we start with the current conditions or return to the origins?
Where are the origins? (De-mystify)

a. A *quick* survey of the now in public housing
b. A rise of doubt and a concern for history: What is HOPE VI (a recent pivot point?)
c. What was modern Public Housing in 37 / what was it in 49?
d. Central Planning and Architectural Design Find Form
e. Pruitt Igoe
f. The moratorium on public housing
g. Construction of the suburbs
h. Issues of class, gender, and race

The 1949 Housing Act was to a large extend an urban renewal act—a fusion of housing development and the renewal of center cities as economic zones for retail, offices (and for housing) in light of the increasing scale of suburban development at the mid-century in the United States. The 1949 Housing Act was in part a reaction to the 37 Act establishing Public Housing but also to provide support to constituencies in urban commercial industry; a provision by the governmental of support for cities and in doing so for urban business. Urban Renewal required land to renew and it had to source that land from private markets—land had to be purchased. What was its value--how do you value the land

when one is expressly stating that the development of the land will be on behalf of making housing affordable and possibly below market rates. The 49 Act addressed this by the following formula—it avoided stating what rents would be for new housing and sought to limit the appearance of lowering property values by instead saying land would be valued at what the market would pay for similar quality housing. Values for land acquired with governmental monies would be set as per what a "private redeveloper who wished to construct on its land housing with the same characteristics as the low-rent housing that the local housing authority wishes to construct."

The passage outlines the problems faced when government is seen in the role of effectively depressing real-estate prices or developing land at less than a market might seek:

Citation: THE Housing Act of 1954 and the War Against the Slums in the Southwestern United States; Robert S. Fairbanks; Department of History, University of Texas at Arlington

Deconstructing the Perceived Notions of Public Housing as Failed

above: Etta McCowan relaxes in her apartment in Pruitt-Igoe in April 1967.
Below: photo: Julius Shulman

The continued disinvestment in public housing at the federal level is largely predicated on the perceived failure of many of the programs and projects of the 1950's and 1960's culminating with the demolition of Pruitt Igoe in the City of St. Louis, and the Nixon moratorium on housing within months of each other. Both were seen as indication that the public housing experiment had failed, and to some that the movement of modern architecture had failed as well. Whites retreated from inner cities to suburbia, architects retreated from agendas of social responsibility, and public housing residents and the buildings they occupied were left to die the slow death of disinvestment, mismanagement, and economic, political and social isolation.

Although not without its flaws, politicians benefited from simultaneously creating the perception that public housing was failing and by creating structural barriers that kept public housing residents locked in place as easy reminders of urban decay. Arguably racist and sexist, and undoubtedly classist, these actions resulted earnest assessment of the problems of public housing, along with any legitimate attempts to correct and improve conditions in the thousands of public housing projects across the country. Secretary Romney, with his Operation Breakthrough projects which looked to innovate not only public housing but the entire residential construction industry, and his calls to develop public housing in outer-ring suburbs where low-income residents might have a better chance of rising out of poverty, went all but completely overlooked. The anticipated political hysteria that would ensue should a federal program fund the relocation of largely black inner-city low-income residents in largely white middle-income suburbs was ultimately what caused the moratorium on public housing, and not "failed" inner-city projects like Pruitt Igoe.

PART TWO MOBILITY - ACTION - FORM

February 20 LAND VALUE, MOBILITY AND ENERGY

Mobility induces sprawl and the need to shore up the (public) city: the rise of the suburbs and the decline of the city.

Land value (costs) rises as a component of housing

Over the last century land value as a percentage of residential real estate has generally risen and in recent decades it has risen steeply. But for a period of time up to the mid-century it was largely stable. Economist have attributed this stable period to the rise of the automobile as commodity—lower cost transportation had the effect of leveling land values--increasing values at distance from cities and transportation and lowering them in cities. In attempting to build lower cost housing next to higher value jobs (and incomes) that matrix has never been easy—land values are higher where incomes are higher. While legislation has tightened the rope on how to counter real estate value and thereby market value the political ability to buy down real estate values has never been easily constructed.

Economist have seen a dramatic rise in land values near major cities during the past thirty years and in other unique regions of the country (coastal land, for example). A question remains as to how persistent this is an equation. Is it an anomaly that will be altered new technologies (as the automobile changed values) or will we face high land values and thus a need for governmental intervention in the provision of affordable housing on an ongoing basis? Indeed are land values not related to jobs and income but instead to a private valuation of land as a deeply cherished commodity? Regardless of the answer, Cupertino and the SF Bay Area are a frontline in this emerging crisis—how does this affect density and allocation or placement of affordable housing?

Citation: Morris A. Davis Jonathan Heathcote. See table below.

Table 6.6
Land and Structure Values: Residential Real Estate, 1975–2005 ($ billions)

	Residential Assets	Replacement Cost of Structure	Land	Land as Percentage of Total Residential Assets
1975	$2,019.42	$1,727.68	$291.74	14.45
1980	4,094.16	3,392.44	701.72	17.14
1985	6,337.96	4,421.46	1,916.50	30.24
1990	8,702.66	5,937.15	2,765.51	31.78
1995	10,339.12	7,646.33	2,692.79	26.04
2000	14,772.31	10,436.47	4,335.84	29.35
2005	24,847.34	15,386.35	9,460.99	38.08

Note: Figures are for the fourth quarter of the years shown.
Sources: Federal Reserve Flow of Funds Accounts and author's calculations (see text).

February 27 IS PUBLIC HOUSING A BUILDING OR A GOVERNMENTAL ACTION?

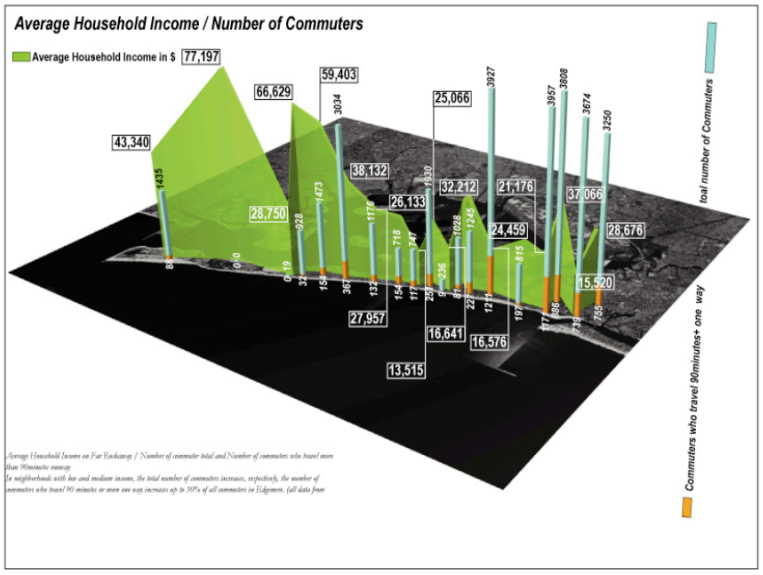
A (Mobile) Action or a Thing: No Form: Human Energy

In a 1988 lawsuit brought against the Lorain Metropolitan Housing Authority after a fire inside one of the public housing authorities apartments tragically caused two deaths the court was asked to clarify if the housing authority's development constituted a residential sub-division and thereby was possibly immune from prosecution in the case of a death per a unique Ohio statute. If the courts ruled that "the operation of a public housing authority" was "a governmental function" (and not a sub-division) the claims to immunity afforded under the Ohio statute would possibly not apply. The difference was critical in that a sub-division would have held different--that is, more limited liability—than a housing authority even as both were understood to provide governmental function. In the Ohio case the plaintiff sought to define the apartment a component of a building—and separate from the wider governmental function of the housing authority. If that argument was accepted the potential outcome would have indemnified the housing authority because the building itself would not have been an agent of the government. The attempts to define liability cut to very meaning of public housing:

was it a form of agency and thereby direct action on behalf of others (a user) or was a component of the wider city and more likely to be defined by and given the same sovereignty as sub-divisions, as municipal provision (not immune from liability but far more insulated from grievance).

The case held the housing authority liable and the housing authority's attempts to separate its buildings from its governmental mission in urban renewal and thereby the provision of safe, clean (etc.) housing failed. The 1988 case was litigated based on the 1937 and 49 Housing Acts and used the language of the Acts to establish the agency and thereby liability of the authority in the deaths. It illustrates a long running crisis in public housing—the direct role of the government in both building but also overall reform of housing, cities and private life. The tenants lack of maintenance of the fire alarm all were less critical then the overall encompassing nature of the (then) 51-year arc of public housing's role. In a sub-division a private apartment building, a private house—neither would have recourse back to the municipal structure itself as it might in public housing.

Citation: MOORE, ADMR., APPELLEE, v. LORAIN METROPOLITAN HOUSING AUTHORITY, APPELLANT, ET AL.
[Cite as Moore v. Lorain Metro. Hous. Auth., 121 Ohio St.3d 455, 2009-Ohio-1250.]
Political subdivisions — Immunity from suit — R.C. Chapter 2744 —Metropolitan housing authority is a "political subdivision" for purposes of sovereign immunity — R.C. 2744.01(C)(2) — Operation of metropolitan housing authority is governmental function. (Nos. 2007-2106 and 2008-0030 — Submitted October 8, 2008 — Decided March 25, 2009.)
APPEAL from and CERTIFIED by the Court of Appeals for Lorain County,
No. 06CA008995, 2007-Ohio-5111.



Above: Mobility and Housing: Diagrams reveal relationships between densities of public housing, income, race and housing type on the Far Rockaway Peninsula. Arverne and Edgemere housing is generally 50 or more units per building. Income in this area is approximately 22% of Queens's median income. At the western end of the peninsula wealthy areas such as Neponset and Belle Harbor are predominantly Caucasian; dwelling types are almost exclusively single-family houses and the income per household is approximately 220% of Queens' median income.

PART THREE: KEEPING EVERYONE IN PLACE WHILE WE DECENTRALIZED MONEY

March 05 MONEY MOTION IN SOLID OBJECTS
Flow of monies; flow of space—and the stilling (anti-mobility) people?
Mobility and Housing Debt Fuel a Century yet Thwart Social Mobility

"The one big institutional difference this time around seems to be the role of the central banks, with the Federal Reserve of the United States playing a leading if not domineering role on the world stage. But ever since the inception of central banks (back in 1694 in the British case), their role has been to protect and bail out the bankers and not to take care of the well-being of the people. The fact that the United States could statistically exit the crisis in the summer of 2009 and that stock markets almost everywhere could recover their losses has had everything to do with the policies of the Federal Reserve. Does this portend a global capitalism managed under the dictatorship of the world's central bankers whose foremost charge is to protect the power of the banks and the plutocrats? If so, then that seems to offer very little prospect for a solution to current problems of stagnant economies and falling living standards for the mass of the world's population."

Excerpt From: David Harvey. "Seventeen Contradictions and the End of Capitalism." iBooks.
https://itunes.apple.com/us/book/seventeen-contradictions-and-the-end-of-capitalism/id863886280?mt=11

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"With the benefit of hindsight, it is not hard to spot abundant signs of problems to come well before a crisis explodes into full view. The surging inequalities in monetary wealth and incomes of the 1920s and the property market asset bubble that popped in 1928 in the USA presaged the collapse of 1929, for example. Indeed, the manner of exit from one crisis contains within itself the seeds of crises to come. The debt-saturated and increasingly deregulated global financialisation that began in the 1980s as a way to solve conflicts with labor by facilitating geographical mobility and dispersal produced its denouement in the fall of the investment bank of Lehman Brothers on 15 September 2008."

Excerpt From: David Harvey. "Seventeen Contradictions and the End of Capitalism." iBooks.
https://itunes.apple.com/us/book/seventeen-contradictions-and-the-end-of-capitalism/id863886280?mt=11

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On the cusp of the 19th century Thomas Jefferson, Madison, Locke and de Tocqueville--all countered attempts at a legislated redistribution of monolithic forms of wealth, even, as they recognized the free-market rights to private property sustained a dangerous potential to damage equality in the pooling of wealth. In a society that protected the rights to property and potentially exploitive monetary gain it portends, Federalist law nonetheless protected the individual right to gains made in a free-market even if those gains often seemed intolerable in light of losses suffered by the apparently less industrious. This seminar is situated directly at the nexus of federal policy that during the 1980's and 90's redirected how the government would address the issue of poverty and housing in the United States. The changes in federal policy amounted to nothing less than a major shift in how the government would seek to address the problem of housing the poor—a problem that since 1935 it had aggressively addressed in the centralized control and management of scores of rental apartment units and histories of slum clearing. In 1998, the federal government was focused on returning housing to the market and in removing the government from the role of landlord or developer. The federal government was adopting a conservative view to housing development and was declining its former role as landlord and developer for housing for the poor.

Does Federalist Money equate with Federalist Houses?

Affordable housing in the United States is almost inevitably developed as a public/private partnership in which the private market demands on housing construction are ameliorated or compensated for by public investment and subsidy in the form of tax credits and bond financing. A tax credit is a form of subsidy that is granted to a developer/builder who commits to providing affordable housing—the credit's value is then sold to a corporation who in effect provides the equity that funds construction. The tax credit maintains the semblance of a free-market by providing public financing incentives—tax funds—that bridge the gap between market rate housing and lower income families. The disparity between market rate and a subsidized market might otherwise cause re-distributions of population by income, race,

class, gender or other factors. These financing initiatives often state their goals as those of re-building disinvested territory in a way that market forces are presumed to be unable to. What other architectural options other than the New Urbanist prototype existed that also could have been applied to these conditions—that is, what other forms of architecture were not able to find ready inclusion with these policy changes. Why was the profession so un-able to see alternatives?

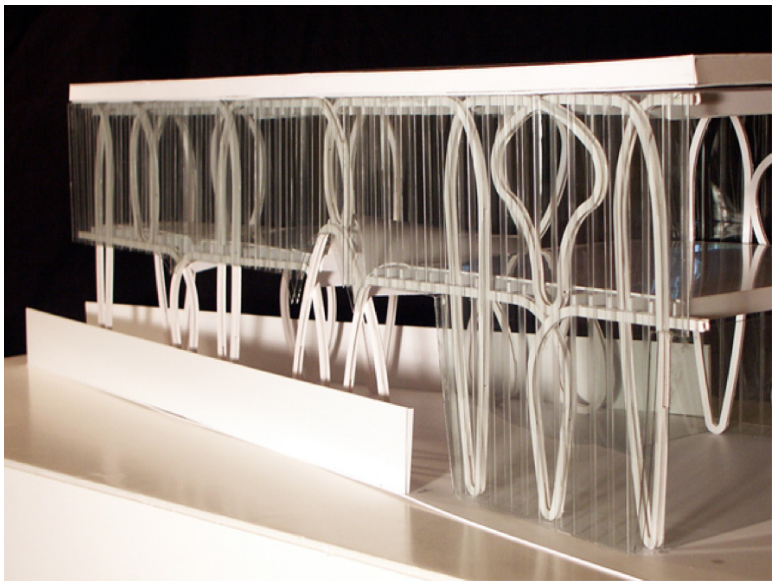
Greg Lynn: Architecture's New Calculus (mobility) Liquidity: Flow of Space:

A specific and even didactic understanding of the mechanics that are beneath the spaces of our urban world can reveal spatial potential in urban and architectural design. In architecture this does mean knowing more about housing law, or policy as the precursor to design but also being able to see law or finance as spatial and to thereby be able to conceptualize and then offer "other" spaces. Alternative.

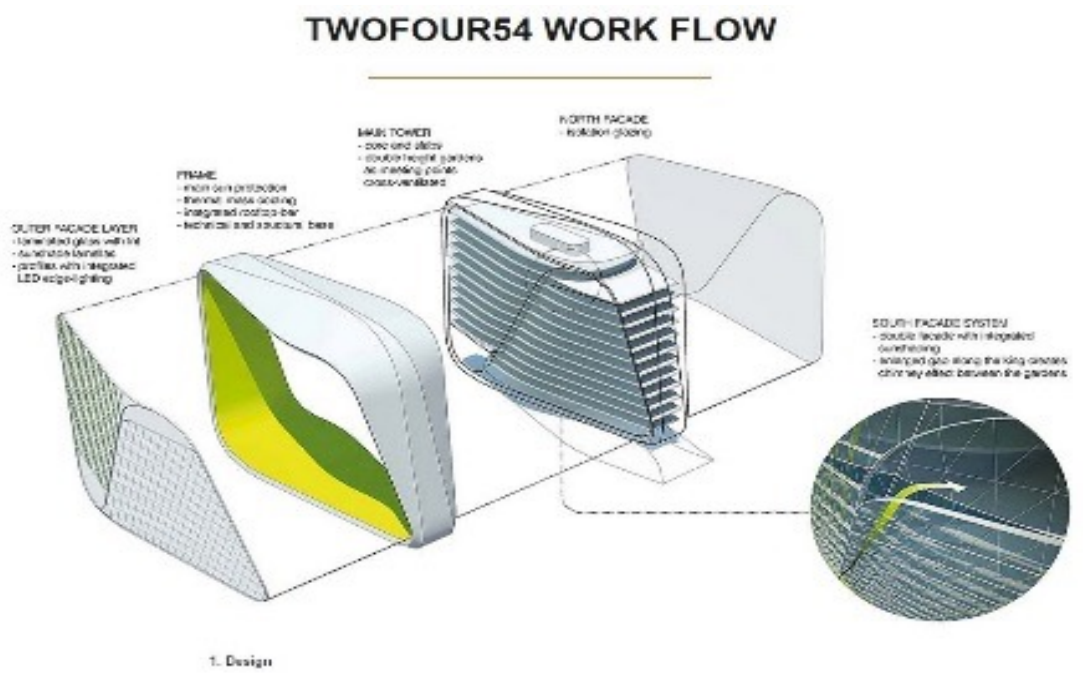
A literal reading of the Quality Housing and Work Responsibility Act (QHWRA-1998): QHWRA was intended to instigate a broader (spatially) mixed-income condition in public housing. It contained language such as "de-concentrating poverty" that was startlingly in its immediate and conceptual architectural qualities. Yet in studying the law closely other side effects of this become more acutely architectural. QHWRA helped increase the reliance on voucher systems to provide equity or rent to low-income households. In relying on vouchers as a mode disaggregating large sums of federal monies in the form of assistance to individual households low-income and public housing was realized more in the manner of normative speculative housing. This in turn was understood to allow a more distributed populace whose financial mobility afforded by voucher program would help break down or de-concentrate poverty. It also meant that the very mechanics and materiality of low-income housing changed but so to the professional engagement of architects—the normative building practices in market rate housing are less reliant on architects and our role is diminished dramatically. One could say that New Urbanism was abetted not by a shift in cultural taste but as a side effect of a political goal to disaggregate housing funding and its allocation—New Urbanism can be realized within the normative practices of construction that we use today in speculative housing. The example takes some unpacking but its offered to point to a way in which architects today could ideally find ways to be specific and precise in how they take on other fields (other forms of agency and power) and how we see their architectural consequence. Our ability to push back.

In the 1990's architects re-invented what the term flow meant in theory, design and practice:

Case Studies: New forms of Architecture and concepts of flow time and change.



New Forms of Architectural Flow: Greg Lynn Form: Slavin House, Venice, CA. 2005
Lynn's work on calculus and surface and spline offers a spatial imagination that would coincide with other forms of flow —monetary and financial practices.



UN Studios: Work FLOW: form, flow, rates of change. Economy

March 12 Kinne Travel
March 19 Spring Break

PART FOUR: POST SUSTAINABILITY - REDISTRIBUTE EVERTHING

March 26 8 MINUTES FROM THE SUN
Renewable energy / abundance and lack
Designing energy
Transformation in energy sources
Per capita weather

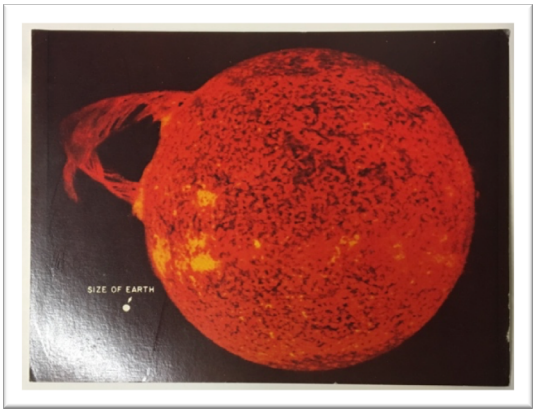
Solar energy from the sun reaches the earth's surface in 8 minutes. Fossil fuels, oil and gas form over 250 – 350 million years. How do we imagine the 8-minutes as architecture?

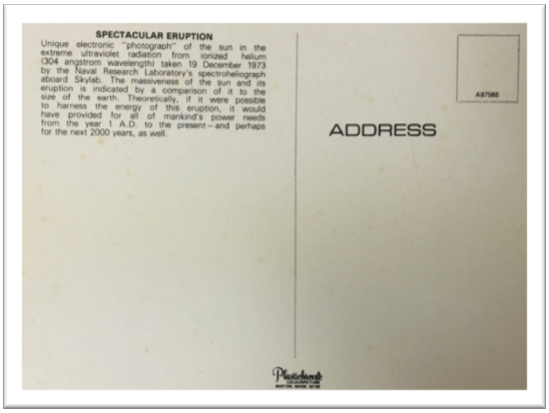
Anyone involved in sustainability and energy knows these measurements and have long sought a transformation of our energy regimes. Whatever the goals the compensatory challenges have seemed intractably staged to stop change (and thus stage environmental calls for change as "revolts"). Blocking sustainability has been market based; there is too much easy money to make in the old energy regimes, too many assets based in fossil fuel protocols, too many stakeholders dedicated to the past. Whatever the source energy expenditures, as we know, are bound to the very nature of modern life. Divided into nomenclatures of housing / office / retail or mobility / production / leisure. Embedded or transitory. Communications and (solid-state) electronics (chips / transistors and batteries). Energy is our basis and every move removes something from the earth and re-releases it into the literal and social atmosphere. If sustainability has been an ethical question we may concern ourselves with doing the right thing; if sustainability is a matter of survival, we had better find a path. Ethics tied to every step—anxiety and conflict. At the moment, however, most of us cannot stop moving or consuming. Anxiety and conflict have often been a sustenance of sustainability debates, yet, today, the global turn to renewable energy is not only mature but perhaps bound to cause more change then we are prepared to imagine. Will a deep implementation of a renewable energy economy shore up old assets (houses, cars, offices et all) or will

possibly instigate entirely new asset classes?

The past century did create new assets and new modes of risk. The economy of the past century also dramatically induced scarcity of all kinds; from food to housing; fuel to land; education to medicine. It simultaneously opened immense branches of low cost communication and global communication.

How will the new energy regimes meet new forms of intelligence; new networks for trade and new means to mine data and information?





*"Unique electronic photograph of the sun in the extreme ultraviolet radiation from ionized helium (304 angstrom wavelength) taken 19 December 1973 by the Naval Research Laboratory's spectroheliograph aboard Skylab. The massiveness of the sun and its eruption is indicated by the comparison of it to the size of the earth. Theoretically, if it were possible to harness the energy of this eruption, it would have provided for all of mankind's power needs for the year 1 A.D. to the present – perhaps the next 2000 years.*ference George Bataille; The Accursed Share

The Accursed Share was a rare but vivid presence in architecture schools in the 1990's.

George Bataille considered himself quasi-embarrassed by the subject of this writing but nonetheless opened the text by calling his work "a book of political economy." He was not an economist nor a specialist in the earth's physics and chemistry but he nonetheless had a fully formed discourse on an economy of energy—on how humans power the world and indeed distribute and share assets. He offered a theory of political economy and described as false the scarcity and lack of energy apportioned by financial markets under the broader auspices of an economy driven by capitalism. Bataille in essence offered a theory that scarcity was a false concept in realms of energy and the earth. Bataille linked economic thought to the world's energy sources in a manner that supposed as fact that the on a daily basis the surface of the earth received more energy than was needed to sustain life. The excess energy needed to be released and spent, indeed squandered to allow renewal and release of excess energy.

Quote: For some years, being obliged on occasion to answer the question "What are you working on?" I was embarrassed

to have to say, "A book of political economy." Coming from me, this venture was disconcerting, at least to those who did not know me well. (The interest that is usually conferred on my books is of a literary sort and this was doubtless to be expected: One cannot as a matter of fact class them in a pre-defined genre.) I am still annoyed when I recall the superficial astonishment that greeted my reply; I had to explain myself, and what I was able to say in a few words was neither precise nor intelligible. Indeed, I had to add that the book I was writing (which I am now publishing) did not consider the facts the way qualified economists do, that I had a point of view from which a human sacrifice, the construction of a church or the gift of a jewel were no less interesting than the sale of wheat. In short, I had to try in vain to make clear the notion of a "general economy" in which the "expenditure" (the "consumption") of wealth, rather than production, was the primary object.

The Accursed Share' An Essay on General Economy, Georges Bataille. Volume I Consumption; © 1988 Urzone, Inc. ZONE BOOKS, New York; Originally published in France as La Part Maudite © 1967 by Les Editions de Minuit. Distributed by The MIT Press, Cambridge, Massachusetts, and London, England

Reference Post Scarcity Anarchism: Murray Bookchin. 1971.

FEAR OF NATURE'S ABUNDANCE

Designing for nature today. Design for the risk associated with settlings (way) off the grid. Can we explore what capacities of excess exist in nature that we do not usually attribute to architectural design.

An infamous episode of the HBO television series "The Sopranos" depicted two mafia hit men lost and increasingly unwound in (and by) the New Jersey Pine Barrens. Reeling in the snow and freezing winter weather, unable to determine direction or path, Paulie and Christopher increasingly collapse into fear in the face of an expanse of the pine forest.

The topological quality of a seemingly boundary less interior of trees and snow (the Pine Barrens) finds the otherwise ruthless characters unable to garner direction.

The Pine Barrens for us is a stand in: a prop for a concept and literal quality of nature that persists in the midst of even the most industrialized states. A zone of nature that is both a demonstrative act of preservation (control) but also of concern and hesitancy (fear). A forestalling of extinction, the forest is another ruin, signaling a hands-off anxiety and fear or damaging a deeply primordial site.

Paulie and Christopher, two mobsters, panic and as it turns out have zero skill to navigate in the face of nature. Normally the inflictors of risk, punishment and fear they instead reel into panic attacks as night falls.

The Pine Barrens is a conceptual site: a zone of nature preserved on the edge of the sprawling metropolis. Perhaps a new zone or interior that now serves as the origin of an architectural habitation. Instead of the other or periphery of the settled and codified metropolis. Our studio will make use of the Long Island Pine Barrens rather than those of New Jersey.

Reference Excerpt from John McPhee. "The Pine Barrens."

The water of the Pine Barrens is soft and pure, and there is so much of it that, like the forest above it, it is an incongruity

in place and time. In the sand under the pines is a natural reservoir of pure water that, in volume, is the equivalent of a lake seventy-five feet deep with a surface of a thousand square miles. If all the impounding reservoirs, storage reservoirs, and distribution reservoirs in the New York City water system were filled to capacity—from Neversink and Schoharie to the Croton basin and Central Park—the Pine Barrens aquifer would still contain thirty times as much water. So little of this water is used that it can be said to be untapped. Its constant temperature is fifty-four degrees, and, in the language of a hydrological report on the Pine Barrens prepared in 1966 for the United States Geological Survey, "it can be expected to be bacterially sterile, odorless, clear; its chemical purity approaches that of uncontaminated rain-water or melted glacier ice.

In the United States as a whole, only about thirty per cent of the rainfall gets into the ground; the rest is lost to surface runoff or to evaporation, transpiration from leaves, and similar interceptors. In the Pine Barrens, fully half of all precipitation makes its way into the great aquifer, for, as the government report put it, "the loose, sandy soil can imbibe as much as six inches of water per hour. The Pine Barrens rank as one of the greatest natural recharging areas in the world. Thus, the City of New York, say, could take all its daily water requirements out of the pines without fear of diminishing the basic supply. New Jersey could sell the Pine Barrens' "annual ground-water discharge"—the part that at the moment is running off into the Atlantic Ocean—for about two hundred million dollars a year. However, New Jersey does not sell a drop, in part because the state has its own future needs to consider. In the eighteen-seventies, Joseph Wharton, the Philadelphia mineralogist and financier for whom the Wharton School of Finance and Commerce of the University of Pennsylvania is named, recognized the enormous potentiality of the Pine Barrens as a source of water for Philadelphia, and between 1876 and 1890 he gradually acquired nearly a hundred thousand contiguous acres of Pine Barrens land. Wharton's plan called for thirty-three shallow reservoirs in the pines, connected by a network of canals to one stupendous reservoir in Camden, from which an aqueduct would go under the Delaware River and into Philadelphia, where the pure waters of New Jersey would emerge from every tap, replacing a water supply that has been described as "dirty, bacterial soup." Wharton's plan was never executed, mainly because the New Jersey legislature drew itself together and passed prohibiting legislation. Wharton died in 1909. The Wharton Tract, as his immense New Jersey landholding was called, has remained undeveloped. It was considered as a site for the United States Air Force Academy. The state was slow in acquiring it in the public interest, but at last did so in 1955, and the whole of it is now Wharton State Forest."

"Published in 1968 by Farrar, Straus and Giroux, First paperback edition, 1988. The contents of this book originally appeared in The New Yorker and were developed with the editorial counsel of William Shawn and Robert Bingham.
The drawings by James Graves on the title page and on page 85 appeared originally in The New Yorker;

April 2

1971 - TOPOLOGICAL ECONOMY OR LIFE INSIDE OUT
The One Percent
Mobility and poverty
Frances Fox Piven and Richard Cloward: the Piven/Cloward Strategy
Architecture Incantation of Mass and Energy
R-Value

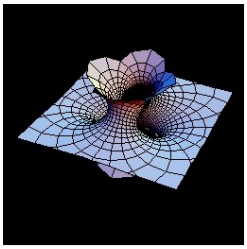
*Abstract due: From Students

b. A geography of wealth and poverty / or a topology of wealth and poverty.
c. The loss of the plastic / the loss of architectural agency as space.

In a scenario offered in 1993 Noam Chomsky makes a distinction between the geographical United States and American corporations. The country he wrote is "developing characteristics of the third world"— but he speculated that its corporate share of worldwide production was probably increasing. According to Chomsky, capital generated within an evolving global economy is no longer distributed in centripetal and centrifugal urban patterns, or in relation to knowable geographic origins. In places like New York and other large U.S. cities the private and public shapes of the city and its economy have not only lost their territorial relation to an origin, but have left their inhabitants without a collective imagination of power's origin; according to Chomsky the forecast prefigures a two-tiered society—islands of wealth for investors and milieus of despair for the "restless many." How does a planner or architect address the demographics of wealth and poverty today or address the place/space of lower income and poverty conditions?

Architectural provided conceptual and literal Topologies

Architectural Topologies: A Case Study: Bye House and Diamond Houses by John Hejduk.



Hofmann Genus – 3

the Ribbon Window and the End of the Interior: Le Corbusier, Villa Savory

April 09 ENERGY RE-WRITES REAL ESTATE
Energy, AI, Machine Learning
Post Capitalism

Buildings secure immense amount of economic risk: they are a form of collateral.

While architects are routinely imagined to be in a struggle (if not a victim) of real estate practices how could we in turn see the built environment as the backstop to leverage and debt. Its security.

In an imagined contrite posture toward finance the perceived burden of investment (real estate; return on investment or ROI) the architectural industry frequently seeks to deliver a higher level of efficiency. To make a better asset. A penance offered to increase ROI. One can point to demonstrative success: housing, for example. today consumes 40% less energy per square foot then it did in 1985. One can find such data at almost any level of construction and design over similar periods of time.

If one seeks such efficiency, we quickly find ourselves in two benchmarks of capital markets: productivity and innovation. Increased productivity offers more potential for wealth accumulation. Innovation, where it's possible, changes the equation entirely offering new ways to increase productivity or indeed allows altogether new achievements. An expansion of the markets and thereby wealth. Architecture routinely seeks both of these claims yet rarely ask (it seems) what is the out limit of this expansion. Indeed, does wealth production inextricably link itself to architecture or building or can we imagine an architecture that has less of a connection to capital accumulation.

Why, do we monetize housing in the first place? Is that inevitable?

Warren Buffett returns to the scene of our studio: again, in 2018.

"Change is painful for a lot of people," said Buffett at the Berkshire annual meeting. "I think it's absolutely essential to America that we become more productive, because that's the only way we increase consumption per capita."

"*Buffett, 86, said that gross domestic product per person in the U.S. is six times higher now than when he was born,*

reiterating his optimism about the nation's ability to generate wealth. That contrasts with the view of Donald Trump during his successful presidential campaign, when he said that the U.S. was ripped off by free-trade agreements. The president spoke in his inaugural speech in January about "American carnage" where rusted-out factories are scattered like tombstones."

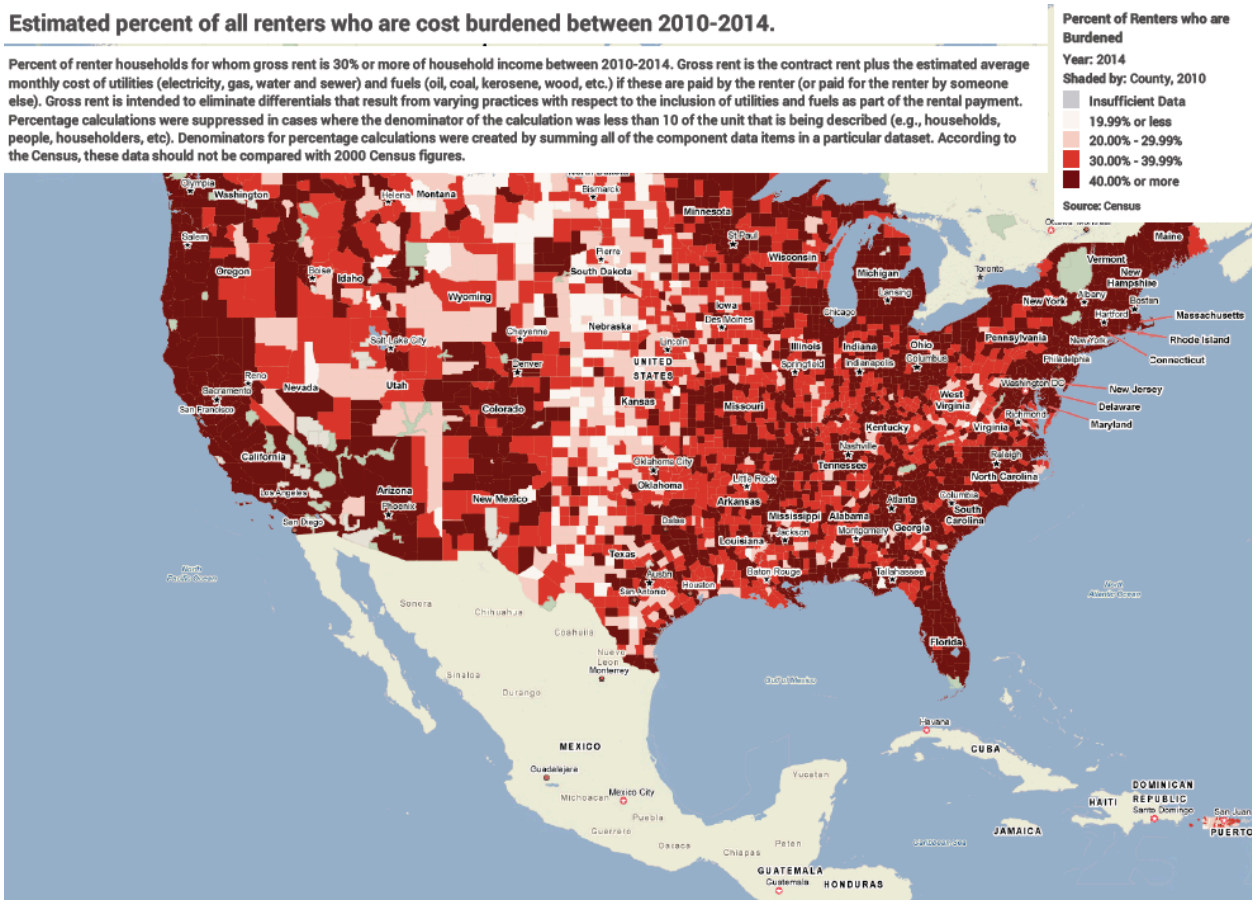
Reference

Warren Buffett https://goo.gl/Bb4W7g

While Buffets optimism is understandable it also can be coupled and seen in light of several decades of expanded leverage and debt. And a faith in increased productivity and consumption. In this context, how we gage an architectural role for building as real estate, as material repositories of wealth and consumption, or as jobs creators changes. What is sustainability in this regard. What happens if credit expansion reaches a real or even virtual limit where the credit regimes we consider the norm in building are simply not tenable.

Studio readings will supplement this question and we will couple this with design work that ideally could affect and instigates new economies of housing.

Reference "Buffett Laments Roadkill Who Lose Jobs, Says U.S. Must Help" https://goo.gl/kHLd6V



Housing Cost Stressed in the United States. Households where renters pay more than 30% of gross income on housing. Joint Center for Housing Studies, Harvard University.

In five years there were more foreclosures then hard units of public housing.

a. What does the foreclosure crisis project onto the future of public housing?

As housing and its requisite urban planning production in the United States continues to operate under tremendous pressure of a prolonged process of foreclosure the immense scale of federal subsidy that has underpinned a deeply uneven recovery have left one thing clear: housing as we know it and allowed it to be realized for half a century is unstable and more so it has gone through wrenching forms of transformation that leave the market aspects; i.e., the dream of a responsive and thereby innovative market under duress (and without an alibi). We have not seen any real innovation in the architecture of housing or its urban planning in decades and in our fear of utopia we have neither embraced our own control nor worked with markets in a way that grants their largess.

In raw numbers the foreclosure crisis was and remains staggering. More than 15,000,000 homes entered foreclosure proceeding since 2007 with more than 5,000,000 having been completed as foreclosures and/or repossessed. This is approximately 11 times the number of hard unit public housing units (actual apartments—not Section 8 or other voucher program units known as soft-units) built since 1937. The discrepancies in the foreclosure markets are both regional and also based in who made the new investments--that is--purchased houses out of foreclosure. Hedge funds according the Joint Center for Housing Studies at Harvard account for as much as 25,000,000,000 dollars invested in foreclosed houses (more than 200,000 homes purchased by hedge funds).

See the passage below regarding hedge funds investment in housing:

"Since the buying frenzy began, no company has picked up more houses than the Blackstone Group, the largest private equity firm in the world. Using a subsidiary company, Invitation Homes, Blackstone has grabbed houses at foreclosure auctions, through local brokers, and in bulk purchases directly from banks the same way a regular person might stock up on toilet paper from Costco."

"In one move, it bought 1,400 houses in Atlanta in a single day. As of November, Blackstone had spent $7.5 billion to buy 40,000 mostly foreclosed houses across the country. That's a spending rate of $100 million a week since October 2012. It recently announced plans to take the business international, beginning in foreclosure-ravaged Spain."

"A lack of supply of new homes in the United States, combined with better fundamentals, has created an opportunistic environment for real estate investors, said Jonathan Gray, Blackstone's global head of real estate. When asked if Blackstone, the largest owner of single-family homes in the U.S., is done buying them, Gray answered, "Not yet. In places like California it has gotten more difficult, but as you move east ... Atlanta, Chicago, Northern Florida—we still see good value," he told "Squawk on the Street" on Tuesday. According to the company, Blackstone Real Estate has $60 billion in total assets under management and $10 billion in capital available for investments. A portion of these assets, valued at over $5 billion, is made up of 31,000 homes in 13 U.S. markets."

Citation: http://www.cnbc.com/id/100873475

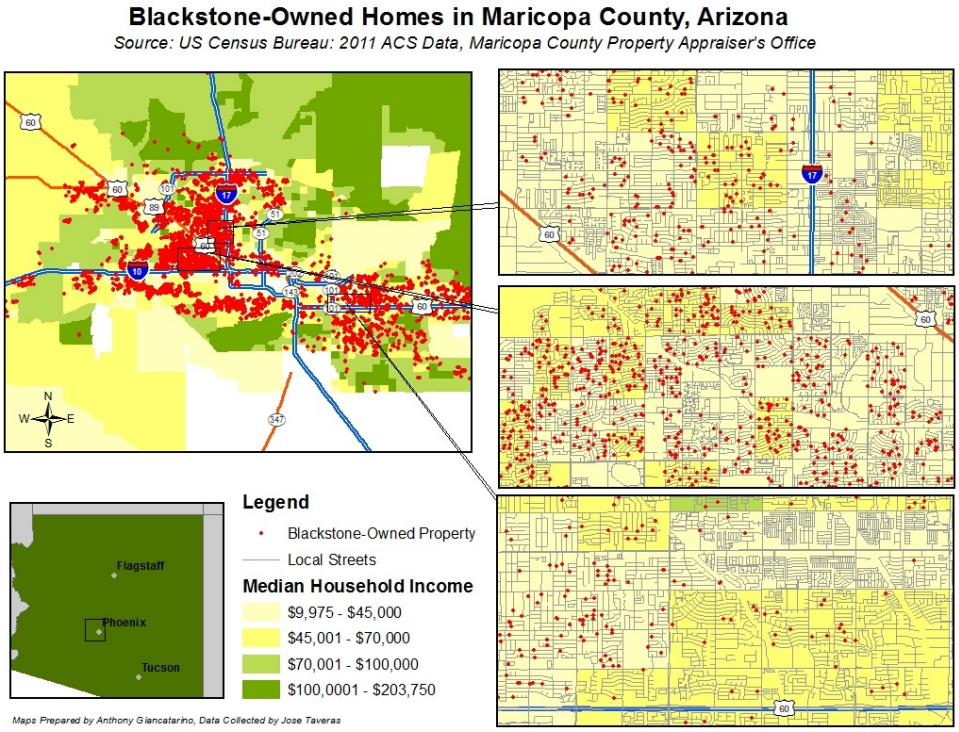
Other regions/areas of the housing recovery (since 2008) have been driven by global investment and strong jobs bases. In short the housing recovery would seem to point to not only an uneven gain but also one that has dramatically different stabilities and futures. Aside from better understanding this condition it also is an important question to understand what it holds for opportunities. The issues are immediate in the form of single family houses and private lives but also structural and capable of dramatic change: who, for example could have predicted that the foreclosure crisis would in part abet a new form of mass-rental housing—that is the securitized rent from hedge funds 200,000 houses (about 1.8% of the United States households).

Architecture seems to need to constitute itself in ways that are realistic and demonstrative. On what ground does a government act to adjudicate markets and alter valuations—if it does at all. And finally what seems to now be a return to a desire for the social life of the city---a cosmopolitan and literally physical concentrate of social and work life that was once industrial in base and now is electronic/digital and in some ways reliant on sustaining the sprawling world beyond as a driver or community in need of (and thereby paying for) such systems.

Our studio as a proposition is in some ways a call for architecture to instigate an urban condition—it can't rely on one. Affordable Housing given all of this instigation could be the most exciting place to work and a zone where the idea of a citizen and identity could be played out at the most advanced levels for all to participate in.

On the assumption that the markets or the real-estate quotient is otherwise stable and not in need of design innovation

one could point to the 25 Billion Dollar plus investment made in 200,000 homes or approximately 1.8% of the households in the United States. The hedge funds see value in aggregation yet the architectural form is one of disaggregation---the innovation one might expect from either condition is today not what it was in prior decades.



What then to make of a hedge fund's ability to purchase .2% of the United States households.

APRIL 16 Thermal – Physical – Chemical

April 23 PRESENTATIONS 1 – 7 to 10 PM

April 30 Final Studio Reviews – no class (time added to earlier sessions)