

Block Party in Hell's Kitchen, New York, NY during the 2003 blackout. Photo: Vincent Laforet



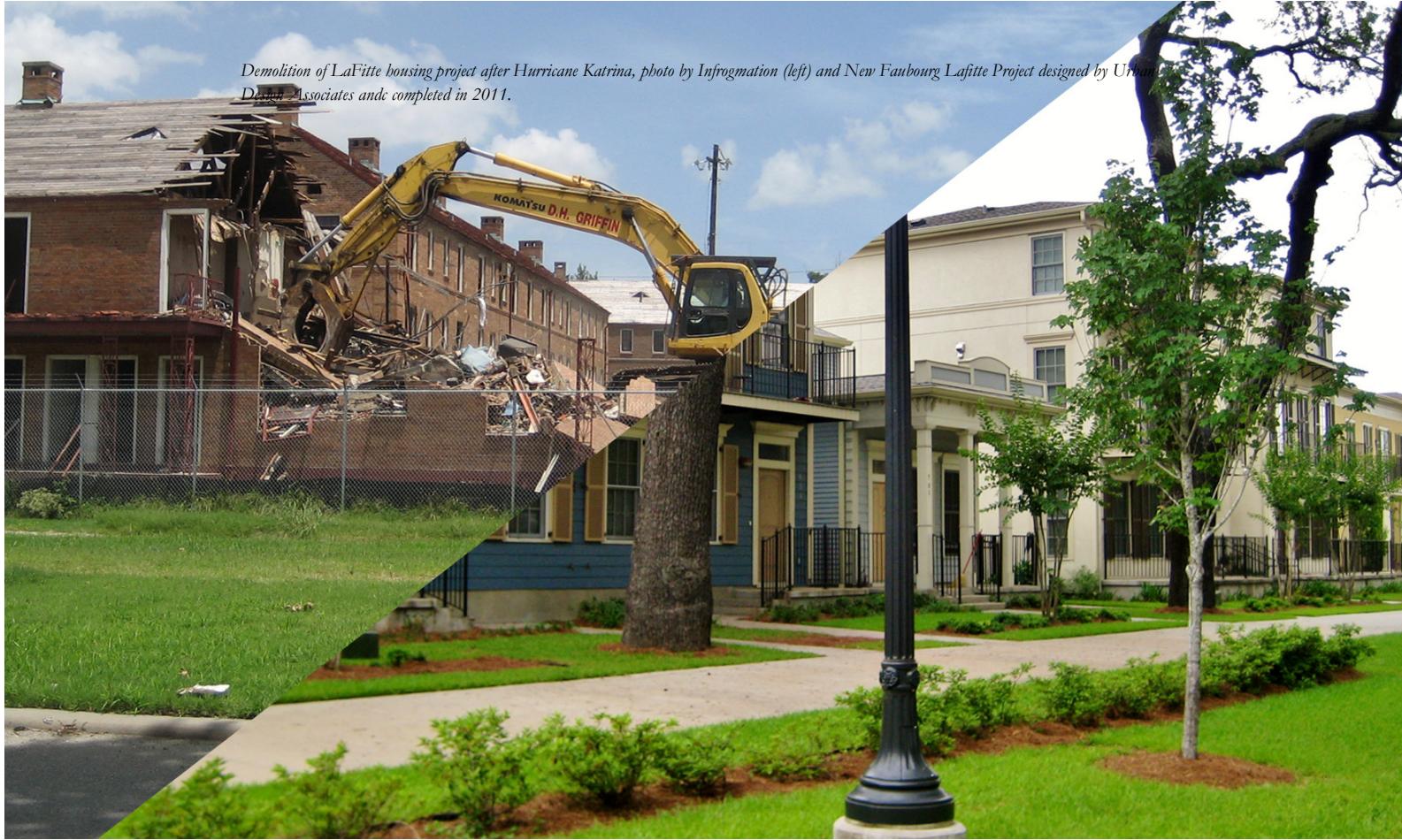
**Known Unknowns
Spring 2015
Advanced Studio IV
Janette Kim**

“Never let a crisis go to waste.”

- Rahm Emanuel, *Wall Street Journal CEO Council in Washington, D.C November 18, 2008*

This studio asks how climate risk opens opportunities to radically restructure collective society. We will design a wide range of educational institutions in Washington, D.C.—from charter schools to prison GED programs to government-funded, research university think tanks—as part of a larger civic infrastructure of post-disaster planning.

Demolition of LaFitte housing project after Hurricane Katrina, photo by Infrogmation (left) and New Faubourg Lafitte Project designed by Urban Design Associates and completed in 2011.



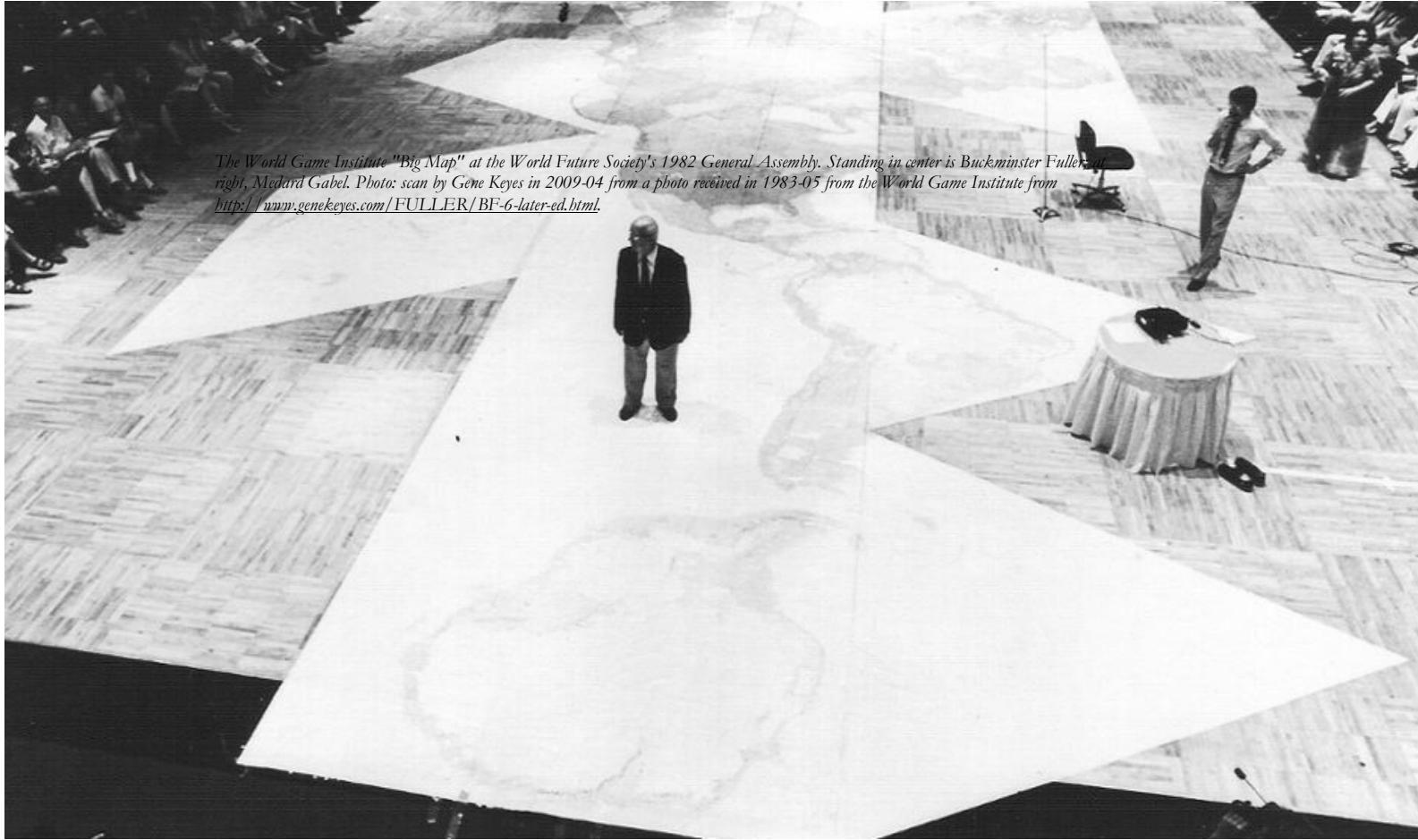
1 Climate and Risk Society

Disasters are transformative. As the privatization of New Orleans public housing after Hurricane Katrina made clear, disaster capitalism and homeland security tactics exploit disasters with ease—governments scale back responsibility for social services while expanding their powers to waive civil liberties. But disasters also open opportunities that would be impossible to imagine in everyday society. Blackouts have energized impromptu block parties fed by warming meat and melting ice-cream. Storm surges have precipitated ride-sharing programs, food distribution chains, and new organizations for legal and medical aid. New alliances, between tourist industries and worker housing, for example, can be activated as shared risks become visible.

The threat of swelling oceans, extreme temperatures, food scarcity, and disease outbreaks, among other climate-related hazards, combine with the possibility of terrorist attacks and market crashes to create a society bound by risk. The idea of a risk society departs from existing discourse about environmentalism—often focused on preservation, conservation and restraint—to address broader questions about an economy of contested and common resources.

In this context, architects both mitigate and adapt: we build efficient buildings, transform consumption patterns, alter settlement patterns, reinforce public service networks, and reform shorelines. Yet, forecasts are only so accurate, and attempts to alleviate some problems only precipitate new ones. Political consensus remains elusive, as events devastating to some open up great opportunity for exploitation by others. Ultimately, the challenges of climate change call for architects to grapple not only with the design of envelopes and arrangements of urban life, but also for techniques for managing uncertainty.

The World Game Institute "Big Map" at the World Future Society's 1982 General Assembly. Standing in center is Buckminster Fuller, and right, Medard Gabel. Photo: scan by Gene Keyes in 2009-04 from a photo received in 1983-05 from the World Game Institute from <http://www.genekyes.com/FULLER/BF-6-later-ed.html>.



2 Scenario Planning Methodology

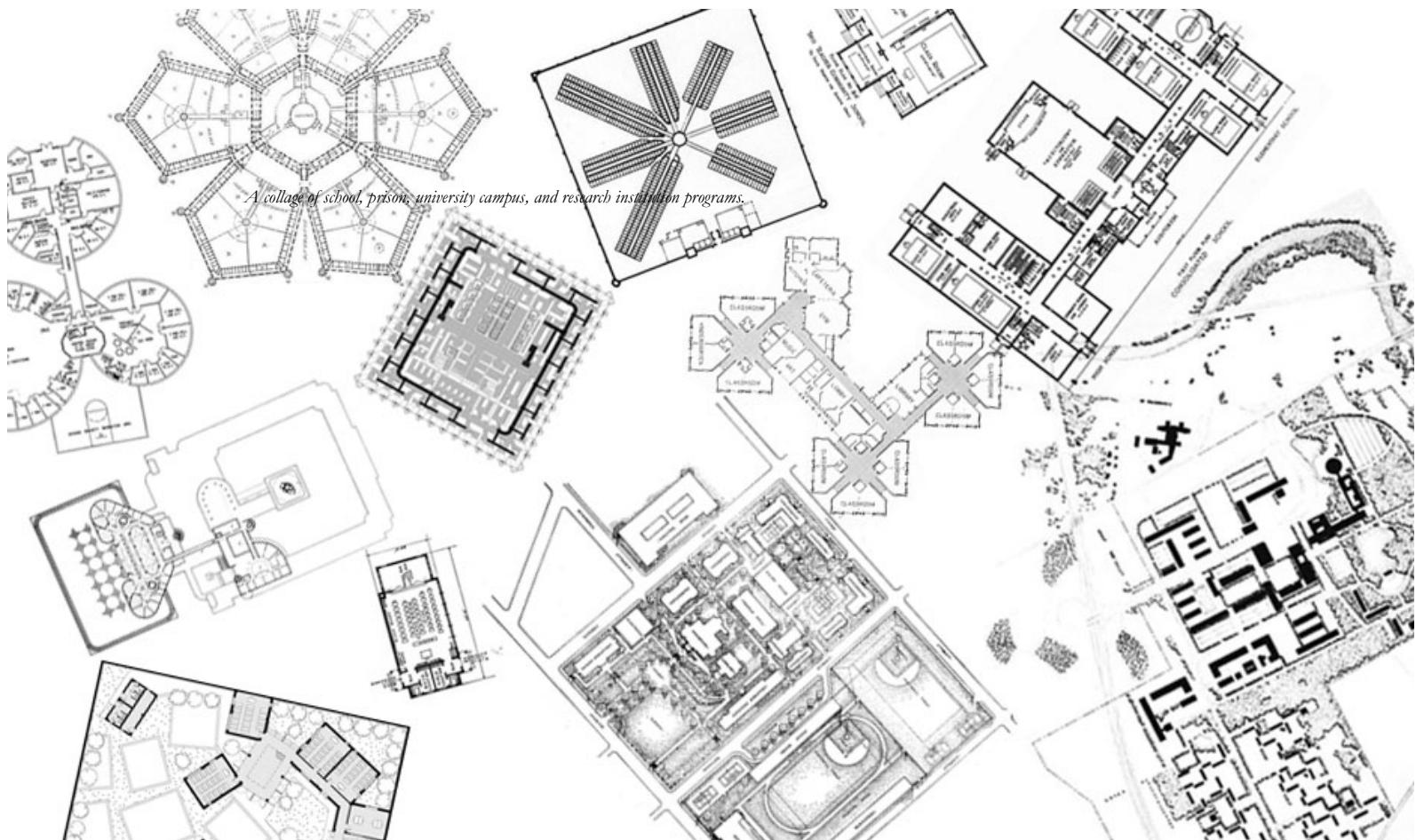
"[T]here are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know."

-Former United States Secretary of Defense Donald Rumsfeld, at a February 12, 2002 press briefing regarding weapons of destruction in Iraq.

Scenario Planning is a method of multi-criteria decision analysis developed in the 1960's by the RAND Corporation and famously implemented by managers, economists and engineers at the Shell Oil Company in the 1970's to imagine, among other things, what would happen to the costs of oil exploration should the Soviet Union collapse.

Today, the technique is used to assess the complexity and unpredictability of climate change. Unlike forecasting, which models the future as accurately as possible based on a projection of past events, scenario planning imagines futures (knowns) that we haven't dared to imagine (unknown unknowns). Risk managers thus evaluate the effectiveness of potential actions, and help competing stakeholders reach consensus. This method is not new to architecture, and echoes Buckminster Fuller's World Game, a logistics game famously encouraged players to "make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offense or the disadvantage of anyone."

In this studio, we will critically use scenario planning to prompt speculation, evaluate our designs, and to illuminate the political dynamics of climate change. In Phase 1 (of 3), students will work in small groups to conduct research and create a full scale 'board game' to play out potential scenarios.



3 Schools as Public Infrastructure

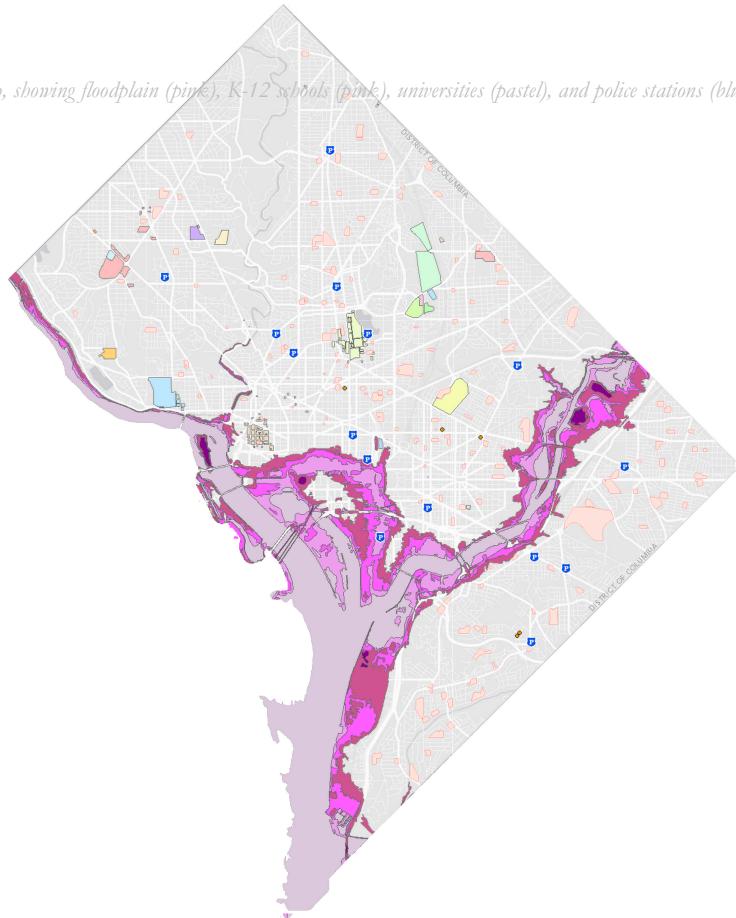
We will examine schools along two principal lines of investigation. First, schools form an extensive physical and social infrastructure for communities, and play a critical role in post-disaster planning. K-12 schools have begun to open their grounds to their neighbors after hours, as playgrounds, community centers, and performance spaces. After a disaster, schools also serve as emergency shelters, pop-up clinics, and even as a medium-term housing solution that can help disaster victims stay close to home while (and if) their community rebuilds.

Second, schools institutionalize relationships between individuals and the economy. For example, vocational schools, military academies and liberal arts colleges train students to reflect (or resist) industry standards. Schools also reflect household structures and work schedules, just as after-school programs provide day care, and homeschooling redefines domestic space. Some—such as prison GED programs—isolate their charges, while easing their transition back out. Schools draw the line between public and private investment, complicated by school closures, school redistricting and voucher programs. And schools are themselves profiteers, from research universities to think tanks funded by military-industrial and corporate ventures.

How can the design of a school transform our current infrastructures, collective actions and economic relationships? How can they anticipate or react to future prospects in a way that acknowledges the power dynamics of climate risk?

Each student or student group will be asked to identify (or combine) existing educational institute(s) in the District of Columbia. Each will design 150,000 sf (for reference, at 150 sf per student in a K-12 school, this would house ~1000 students), either for new construction, additions, and/or retrofits, to rethink the school's present day functions and its role in a larger infrastructure for post-disaster response.

DC Atlas Plus map, showing floodplain (pink), K-12 schools (pink), universities (pastel), and police stations (blue).



4 A distributed District of Columbia

In response to the collective Advanced Studio IV title, ‘Scales of the Environment,’ this studio builds on the idea that climate risk is not limited to an isolated site or condition (such as flooding). Instead, climate risk activates a series of chain reactions and exchanges that affect diverse and seemingly disconnected players.

We will work in the District of Columbia not only because it is subject to severe storm surges, heat waves and flooding, but also to take advantage of the complex range of governing agencies, economies, populations and educational institutions in this city, from the city’s struggling public school system to Georgetown and the Brookings Institute. These institutions reveal scale dynamics particular to D.C., which is torn between massive federal bureaucracies and a defunded local government disempowered by lack of representation in Congress. But while institutions fail to bridge government workers and city residents, climate risks link struggling developments along the Anacostia River, the National Mall’s flood protection levee, and the city’s military infrastructure at sites like Fort McNair. Even beyond D.C.’s boundaries, too, are staging grounds like the National Emergency Training Center for FEMA and Raven Rock, the backup command center for the Pentagon.

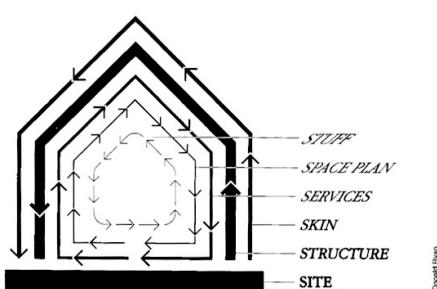
Students may choose a ~50,000 sf site either at their chosen institution’s existing location or at one of a list of recommended studio sites linked to the distributed effects of climate change throughout the District of Columbia.

Hermitage Proposal, Office of Metropolitan Architecture (sideways).



5 Buildings, Change and Uncertainty

To test the anticipation of future scenarios in architecture, we will examine techniques and attitudes towards building preservation, maintenance and retrofit. This interest begins with Frank Duffy and Stewart Brand's "shearing layers" concept, which demonstrates how the planned obsolescence of buildings components delaminate a structure's integrity over time. We will examine this among other strategies, from material and structural (erosion, chemical preservation, etc.) to ecological (succession, conservation), to legal (easements, sublets, etc.).



from "How Buildings Learn" by Stewart Brand illustration by Donald Ryan

In Phase 2 of the semester, we will learn from existing strategies of building adaptation, and make abstract models to enable students to develop innovative spatial and material strategies of change. This will be followed by Phase 3, in which students will work independently or in pairs to address the research, scenario planning board games, and model studies to produce a single design proposal. We will focus on the production of large scale drawings that evoke the inhabitable board game of Fuller's 'World Game,' and use physical models to demonstrate the relationship between your design and future scenarios.