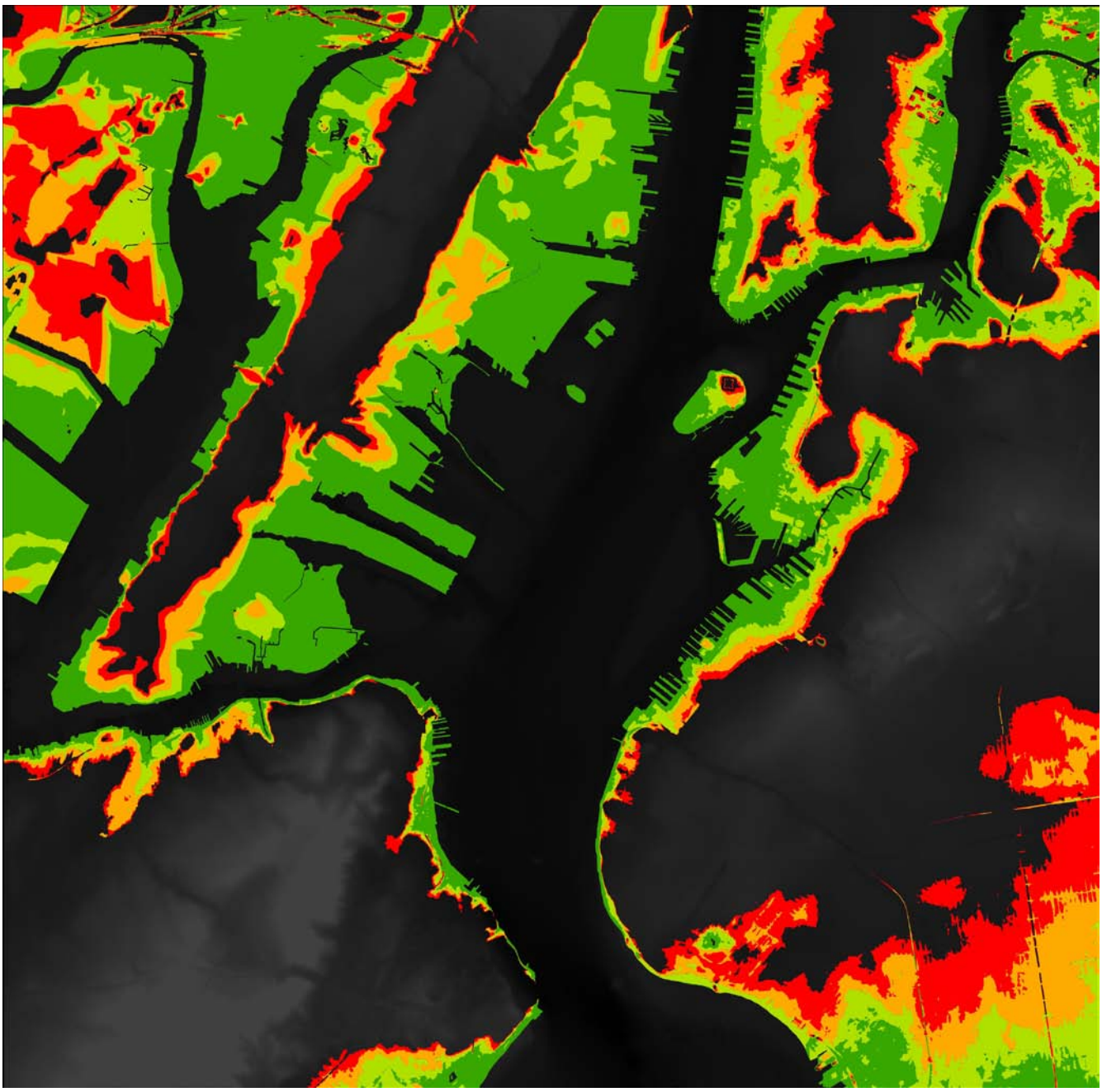
Just Add Water: Rising Currents and the Sea Change in Architecture

Alan Smart



Map produced by Rising Currents showing elevation above sea level and zones of projected flooding and inundation.

If climate change continues as projected, an increase in sea levels between two and six feet is expected over the next hundred years. Fluctuation in water levels is also predicted to increase as weather becomes more severe. The exhibition *Rising Currents: Projects For New York's Waterfront* at the Museum of Modern Art proposes a series of projects for a wetter, muddier, stormier future in which coastlines shift and the distinction is blurred between *terra firma* and the boundless deep. The project began with a report by engineer/ designers Guy Nordenson and Katherine Seavitt mapping changes in the coastline of New York Harbor as sea levels rise. Five teams of architects were then asked to develop proposals for sites around the New York harbor. The teams leaders: Lewis, Tsurumki, Lewis, (LTL); Architecture Research Office (ARO); Mathew Bayrd and Associates; nArchitects; and SCAPE landscape architecture headed by Kate Orff, represent a collection of "emerging" firms, based in New York, whose emergence has lately been somewhat frustrated by the financial

crisis. Under the direction of Barry Bergdoll, the Phillip Johnston Chief Curator of Architecture and Design, the exhibition posits an architectural response to a changing world and offers, as MoMA architecture shows have historically been called upon to do, something of a status report on architecture as a discipline.

The legacy, or perhaps the ghost, of modernism is everywhere in the exhibition, and appears in two incarnations. The MoMA's "house ghost" is a discourse, inaugurated by Philip Johnson in his 1939 "International Style" exhibition, which figures modernism as an aesthetic style focused on the specificity of architectural objects. The scale and scope of the work, however, connects it to another modernism that sees the city as a giant socio-technological machine to be managed and engineered for optimal efficiency. This modernism informed Robert Moses' massive public infrastructure projects that shaped the New York City waterfront in the post-war era and, in more utopian form, an array of speculative megastructurial projects produced in the 1960's and 70's. Both Johnson's and Moses's modernisms are in turn stalked by their own specter. Johnson and the generation of "postmodernists" he fostered fought anxiously to preserve architecture as a civilized humanist discipline in the face of advancing technocratic barbarism. Post-war planners such as Moses, for their part, lived in fear of losing their grip on the power they had created—that the reactors powering the bright future they were building would meltdown or that the frozen geopolitical order of the Cold War would crack in a cataclysm of atomic destruction. The architects in *Rising Currents* struggle with both of these ghosts. The desire to create beautiful, interesting objects co-exists, however fractiously, with ambitions of master planning and the conception of the city as an invisible system or infrastructural framework supporting and sustaining life.

Kenzo Tenge, *Tokyo Bay Project*, 1960

In its best moments *Rising Currents* moves beyond a re-negotiation of old dichotomies to come to terms with climate change through an assertion of radical uncertainty and a commitment to provisional solutions. This architecture seeks neither to reclaim technocratic control nor escape into cynical formalism. Instead it adapts and finds ways to operate within systems that are no longer closed, fixed, or stable. The urban infrastructures imagined here sit self-consciously within nested layers of larger systems—the regional ecology, the global environment—and contain within their structures architectural machines and other devices whose action agglomerates to have a global effect. Technological systems are grafted onto living systems in ways that blur the distinctions between infrastructure and ecology, architecture and environment. Design oscillates between bold master planning and deft, limited interventions inserted as wedges or levers into larger systems. At their best, the projects in the exhibition operate across scales and between levels of control, evidencing the beginnings of a "new tendency" that embraces opportunism, curiosity and adaptability and faces the threat of future meltdown with a determination not to seize control with a tighter grip or a heavier hand but rather to surf, to drift and ride out the storm by remaining light buoyant.

nArchitects, *New Aqueous City*

Old refrains still echo through these designs. In *New Aqueous City*, the proposal for Bay Ridge, Sunset Park and parts of Staten Island, nArchitects imagine canal-spanning housing blocks comprised of service-providing armatures into which individual units plug. Despite resembling MDRDV's freight-container-inspired housing in Amsterdam harbor, the system works more like an interchangeable, modular Archigram plug-in scheme. *New Aqueous City* goes further, however, in equipping its support armatures with "digesters" that turn the buildings into organic bodies, consuming, digesting and excreting material into a larger urban ecology. The environment the bodies inhabit is moderated by a (literally) "soft" infrastructure of levies and breakwaters that inflate and deflate in response to storm surges and tidal flocculation. Uncannily, the three-armed star plan-forms of modernist towers reappear (rendered fetchingly in international-orange Plexiglas) as massive submerged breakwater elements, the sunken ruins of a lost Atlantis, that create artificial islands between the inflatables.

Sunken infrastructure appears again in *New Urban Ground*, a plan for Lower Manhattan by Architecture Research Office (ARO) and landscape architect Susannah

Architecture Research Office (ARO), *New Urban Ground*

Lewis, Tsurumki, Lewis, (LTL), *Water Proving Ground*

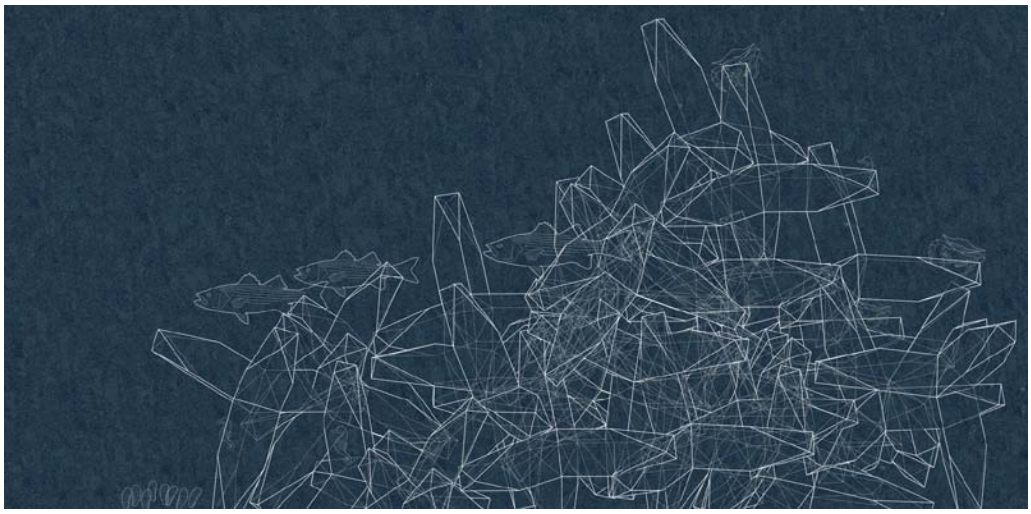
Drake of Dlandstudio. In this case, it is submerged in earth as well as water. An invisible megastructure is discovered as much as created beneath the streets as services are enclosed in watertight vaults allowing them to "float" in the inundated ground. The solidity of the ground plane is dissolved as earth becomes another media in which things are suspended and the surface becomes a permeable membrane through which plants grow and water seeps. Integration of these natural and artificial systems creates an urban landscape that's at once more dense and possessed of the vital resilience of nature. Moments of disjunction between systems are then created as when the ground is allowed to drop away from the streetscape turning sidewalks into bridges that fly through the tree canopy of a "sunken forest".

Water Proving Ground by LTL, is more explicitly concerned with the ground plane as a plane. A flat, floating framework is laid over new tidal zones on the New Jersey coast, creating a patchwork of "test beds" or "Petri dishes". Rather than plugging modules into this infrastructure, *Water Proving Ground* becomes an experimental apparatus containing smaller, microcosmic systems within a larger framework that record information and generate empirical knowledge about the environment. The scaled systems-within-systems condition is made cleverly explicit with the inclusion of a test bed containing a scaled hydrological model of the New York Harbor allowing a doubling of the coastline's profile in plans of the project. The radical uncertainty in Water Proving Ground plays out formally as well in mediation on the link between plan and section. A six-foot sectional shift in mean water level subjects areas of the plan to intermittent inundation by storms and tides and destabilizes the neat figure/ground distinction between land and water. Light frames float on the changing surface and heavy masses of earth are sheared and sloped to amplify the translation between shifts in plan and section as they sink and reemerge from the water. Motifs of floating datums and unstable, or unproven, ground fall easily to hand here as traces of the discourses on "deconstructivist" architecture within which LTL developed their distinctive style in the 1990's. These architectural operations, however, remain fresh, relevant and engaged by setting up a tension between organizing systems the specificities of architectural objects making without necessarily setting the two in opposition. The loss of control and weakening of the architect's position relative to that of the heroic modernist planner is accepted not with anxiety, but rather with a certain opportunistic wit.

The "softening" of the land/water distinction also figures heavily in *Working Waterline* by Matthew Bayrd, which proposes an adaptive re-use of an oil tank farm and a military pier on the industrial coastline in Jersey. Bayrd enthusiastically embraces both the effects of climate change and the architect's role as systems engineer for the dystopian future. The larger scale implications of climate change are considered in positing the opening of an ice-free arctic sea passage that diminishes the importance of New York Harbor as a shipping port and leaves industrial sites like the tank farm idle and in need of remediation and reuse. The site is opened up for recreation and the industrial infrastructure is allowed to become a monument to its former productive self.

The most striking (though apparently unintended) parallel to Bayrd's project, is an unrealized plan for a floating nuclear power plant off the coast of Atlantic City, designed by the engineer Richard Eckert for the New Jersey Public Service Company and profiled in an 1975 *New Yorker Magazine* article by John McPhee.[1] The reactors in the Atlantic Generating Station were to be mass-produced as ready-made modules that could be floated into position and plugged into the power grid as needed. The project called for the costly construction of enormous breakwaters made of tens of thousands of concrete "dolos" in order to allow the plant to survive the rigors of its unstable, ocean non-site[2]. It was political expediency as much as technical necessity that shaped the project and drove the decision to situate it offshore, "over the horizon", in the hope that it could escape bureaucratic entanglements and popular resistance. Both proved in vain.

Bayrd's proposal also includes piles of dolos and involves energy production but situates the whole process closer to shore in a new, muddy, tidal region amidst the



"Jacks" in Mathew Bayrd and Associates, *Working Waterline.*

ruins of older industry. The scheme calls for two factories, one that melts down glass bottles from the New York area and molds them into "jacks" (as they are called in the exhibition) and another that uses wastewater to feed bio-fuel producing algae. The jacks are used to create artificial reefs, providing marine habitat and breaking waves and the algae bio-fuel is used to fire the glass furnaces. Instead of locating powerful reactors off-site and out of sight in an effort disentangle the project from political pressures and ethical grappling *Working Waterline* turns the whole landscape into a slimy, murky, organic power station that feeds itself and grows. *Working Waterline* exemplifies the tendency in the *Rising Currents* exhibition as a whole that embraces such an entangled murkiness with as much enthusiasm as resignation. The post-war vision of a future of scientific progress, threatened with possible nuclear annihilation, is replaced with narratives of a fossil-fuel-burning consumer culture slowly, but surely drowning in its own excess but, paradoxically, perhaps able to save itself by eating (or drinking) it's way out of trouble. It's a risky gamble and one that seems set on preserving the role of the architect as a maker of "magical objects," as Nicolai Ouroussoff calls the "jacks" in his New York Times review[3].

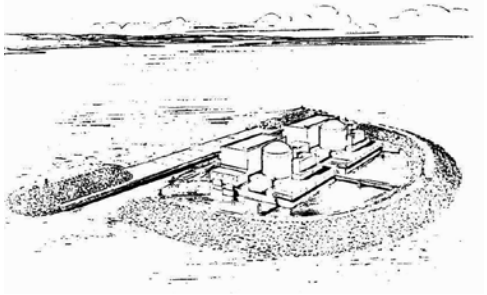
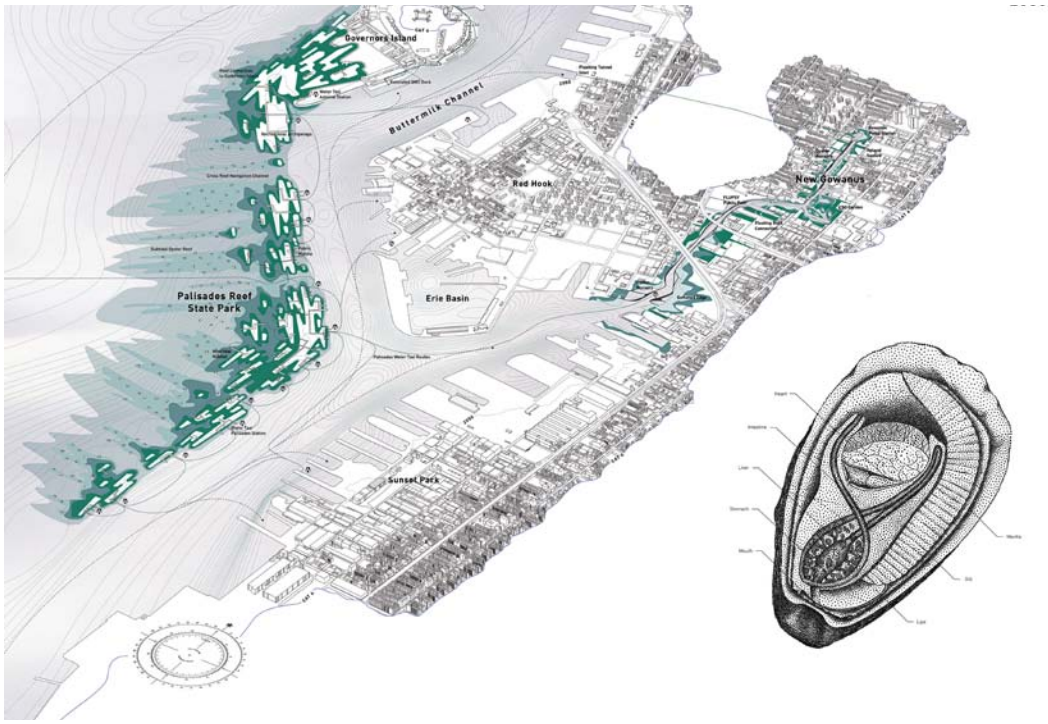


Illustration of the Atlantic Generating Station from New Yorker magazine, 1972

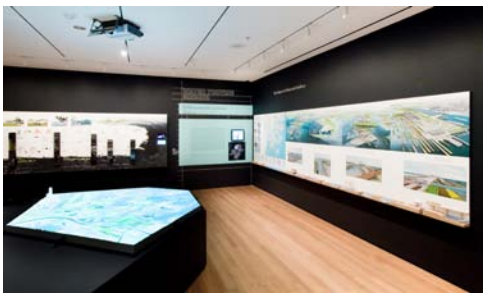
If, however, the genie that the architects in Rising Currents are tasked with getting back in its bottle is not modern technology but rather modern consumer culture then it seems that the magic of media or markets may prove more useful than that of expressive object making. The project *Oystertecture* by Kate Orff sees this most clearly. Orff takes the oyster as a module and uses it to create a system that is at once social, ecological and infrastructural. A stomach without a face, the oyster is both an aphrodisiac fetish commodity and a metaphor for orally fixated mass-consumer-subjects who build cities, like oyster beds, by accretion, smothering those beneath them as they grow. Oystertecture takes up the oyster both as a specific species as an icon in advocating for increased biodiversity in general and the integration of the city's anthropocentric systems with larger ecologies. Rather than looking to new technological, the standard techniques of commercial oyster cultivation, themselves a simple amplification of the oyster's lifecycle, are appropriated, reconfigured and expanded into a mechanism for urban restructuring. Orff imagines setting up a system of commercial and community organizations that would work towards adapting the existing infrastructure of the Gowanus canal for oyster cultivation. A choreographed spectacle of nursery tanks, oyster larvae seeding boats, and water-flushing impellers turns the canal into a giant hatchery. After hatching, the young oysters flow out into the harbor to establish themselves in a system of geo-textile sheets installed in the tidal regions creating oyster beds and providing a substrate for eelgrass and other species to attach to. The geo-textile mesh fills up with oysters and other biomass to create living reefs that clean the water and stabilize the coastline.

SCAPE, *Oystertecture.*

The engineering here is not simply "soft" but actively living, growing, and adapting in dialog with the changing environmental conditions. Orff's team puts a certain amount of effort into representing what the later stages of the intervention would look like and how the reefs would be inhabited but a major part of the project's potential lies in these things not being known or fixed. As "shovel-ready" as the project may be, there will never be a ribbon cutting; the development is an ongoing process.



SCAPE, *Oystertecture.*



Rising Currents installed, Museum of Modern Art, New York City.

The presentation includes menus, material samples, cartoons and sketches that give the impression that the project could operate more like a marketing campaign, political movement or relational art on an urban scale than a conventional architecture project. In being manifest as a set of practices or a loosely scripted collection of ongoing events, *Oystertecture* opens up a possibility for architecture to engage with the range of performance, activists and entrepreneurial practices that have come to play increasingly important roles in the planning and organizing urban space. Orff offers a model of opportunistic intervention that moves away from architecture as technocratic master planning or hermetic aesthetic discourse. It's far from a total solution but the promise held out is that techniques can be developed for coping with vast scale and complexity not by concentrating power in the hands of design masterminds or assuming a grander scope of vision but through leverage, cleverness and asymmetrical acts of hopeful subversion.

Oystertecture responds, if only episodically, to the full implications of the crisis identified in Rising Currents. If concerns about future environmental disaster are the explicit organizing principles of the show, then lurking not far below the surface lie anxieties about the future of architecture both as a profession threatened with the unraveling of its financial basis and as a discipline threatened with a crisis of relevance. The feared catastrophe here is not a systemic breakdown or destructive cataclysm but a loss of control and surety. That the progressive elements of architectural practice hinge on developing techniques for operating on relational networks, staging, scripting or, perhaps, precipitating events seems obvious at this point. This, however, is just for the moment. The only certainty, aside from money being tight for the next little while, is that things will be different in the future, and the things that we find ourselves doing may bear scant resemblance to what we see now as our practice. The water is rising and a lot will get washed away in the flood. Of all the things to be saved, a constrained conception of Architecture seems least interesting. Better to hang on to the curiosity, the cleverness, and the capacity to reinvent oneself that glimmers from within the projects in *Rising Currents*.

[1] John McPhee, "A Reporter at Large, the Atlantic Generating Station," The New Yorker, May 12, 1975.

[2] Iconic early example of efforts in "soft engineering," designed in the early 1960's by South African harbor engineers, dolos are (relatively) huge, multi-armed concrete units in the shape of jacks that lock together in lose configurations to resist wave action while still

[3] Nicolai Ouroussoff, The New York Times, March 25, 2010