2013

Architecture, adaptive capacities, and the futures of hypercomplexity

Adam Bobette

Meredith Miller
National Bureau of Asian Research

Etienne Turpin
University of Wollongong, eturpin@uow.edu.au

Publication Details
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Abstract
I think it is somewhat arbitrary to try to dissociate the effective practice of freedom by people, the practice of social relations, and the spatial distributions in which they find themselves. If they are separated, they become impossible to understand. Each can only be understood through the other. - Michel Foucault, "Space, Knowledge, Power"

Keywords
capacities, hypercomplexity, adaptive, architecture, futures

Disciplines
Engineering | Science and Technology Studies

Publication Details

This journal article is available at Research Online: http://ro.uow.edu.au/eispapers/2227
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Michel Foucault, "Space, Knowledge, Power"

In our research, it is necessary to challenge the dominant allure of environmentalism in architecture, which, having doubtlessly been addressed across a wide number of projects and practices for at least forty years, nevertheless remains caught up within a hierarchically, opaque and ultimately illusory standard of sustainability, that is frequently connected to a form of cultural elitism and well-intended liberal gestures. Adapting the concept of environmentalism in architecture practice requires that the spatial distributions implied by discourse on the environment be assessed not only according to the logic of inhabitation as performance and occupancy as optimisation, but, more fundamentally, in relation to temporalities of violence. To provoke such an adaptive rethinking, the activist writings of Rob Nixon offer an uncompromising trajectory of approach. To begin, with respect for the often intangible effects of ‘slow violence’, Nixon distinguishes this concept from earlier theories of structural violence. In his words, ‘Structural violence is a theory that entails rethinking different notions of causation and agency with respect to violent effects. Slow violence, by contrast, might well include forms of structural violence, but has a wider descriptive range, calling attention not simply to questions of agency, but to broader, more complex categories of violence enacted slowly over time. Moreover, Nixon goes on to connect this reading of slow violence to the deep time of geology and the evaluation, within geologic and stratigraphic science, of the Anthropocene thesis, although it is equally connected to what might be called the ‘atmospheric diagnostics’ brought about by climate change. This is not least because the slow but relentless accumulation of violence brought by climate change, which is characterised by unequal exposure to risk and disproportionate impacts of vulnerability, is inflicted most severely on the urban poor. In this regard, we agree with Nixon that the ‘facts of environmentalism’ — and more decisively, the character of the biosphere itself — will be shaped significantly in decades to come by the tension between what Ramachandra Guha and Joanne Martinez-Alier have called ‘full-stomach’ and ‘empty-belly’ environmentalism.

The question for architecture practice and its potential adaptive capacities is thus whether the ‘full-stomach’ environmentalism of eco-design and liberal-minded sustainability can be thought of as an adequate response to the politics of hunger and thirst that are made increasingly dire by the extreme weather events, repeated resource shortages and dramatic floods that shape the lives of the urban poor in the global south. The spatial distribution of environmental risks and benefits are also manifest in the reality and potential of social relations. In our research, the examination of such relations within Jakarta begins with a consideration of the contemporary pressures for urban development. Of course, this is by no means limited to architectural discourse, even if the iconic images of metropolitan progress are so often delivered by contemporary architecture firms. In this regard, the logic of development is as malicious as it is inescapable; development is a ubiquitous concept that is readily accepted as a natural given. Of this assumed given condition, questions worth posing are: Since when has development become the goal of capitalist investment? And how has this goal been articulated through its opposing term, underdevelopment? What began as early as 1940s, with a speech by then US president Harry Truman on the need for affluent nations to address the so-called underdevelopment of less affluent states (notice how, in this speech, the term development begins to replace the term imperialism), has grown into a global project of reducing heterogeneous forms of social life to potential economic resources. The political dimension of development is thus related to its tendency to reduce the variegated social field to a more coherent, recognisable and formal series of designations that can be counted and traded – that is, accumulated as capital. The contemporary skewline of any major megacity can thus be understood as a series of inhabitable Trojan Horses with designer shells, the occupants of which enjoy the luxuries of high-rise dwelling only as a residual effect, while the primary effect of these major developments is the accumulation of profit by the development firms themselves.

The Trojan Horse effect of urban development has also been championed as a solution to urban poverty by the neoliberal economist Hernando de Soto. De Soto’s argument is as simple as it is deceptive: because the urban poor typically do not have a ‘proper title’ to their land or dwelling, these assets are trapped as ‘dead capital’. The liberation of this dead capital, then, requires the formalisation of property rights and material assets so as to enable their potential value to be realised as investment collateral. De Soto’s alleged solution to the mystery of capital is thus to introduce a more formal and uniform structure of financial debt by homogenising the social relations of the urban poor into formalised, accountable proprietary assets against which money for development can be borrowed. Among the legions of critics who have contested this logic, Mike Davis has clearly described how this formalisation of physical assets as property would significantly disadvantage the poorest of the informal settlements by forcing them to compete within a formalised market economy, and would therefore exacerbate the most violent forms of urban poverty. The question of adaptive capacities with respect to architecture splits here in two directions. First, it is necessary to question the role of architecture as the iconography of development; this problematisation would certainly involve a concerted, long-term effort, which would itself require a fundamental rethinking of architectural pedagogy and apprenticeship, in addition to a substantial reappraisal of the philosophy of the city itself. Second, for architecture to advance a more robust concept of the city that could contest the developmental violence of contemporary neoliberalism, it is imperative to engage more fully with the discourse of ‘informality’, since it is this heterogeneous and difficult-to-formalise series of social relations that are so often the target of urban development policy and its accumulation through dispossession (again, frequently under the dubious logic of correcting urban ‘underdevelopment’).

We are far from alone in attending to the spatial distributions and social relations at stake in informal settlements, even if we prefer to use the somewhat more awkward location ‘difficult-to-formalise’ as a designation for the spaces and relations in the kampangs of Jakarta. While recognizing the need to develop the problem of informality more substantially, presently it is valuable to note that the prefix in- of the word informal operates according to a logic similar to the prefix under-, in the term underdevelopment. In both cases, the designation itself is often sufficient to warrant some form of concern or intervention on the part of state authorities, financial investors, or some motley aggregate of both. What is occluded in such a missionary approach to formalising the difficult-to-formalise, and thus making possible an accumulation of profit, is that these social relations are themselves already highly structured, organised and coherent. They help distribute the space of the kampang across ethnicities and generations, affecting spatial logics, temporal affinities, familial connections, and modalities of relation that are, quite simply, nonexchangeable. In her recent essay ‘Informality and Its
Discontented, Fran Tonkiss explains this nonexchangeable or irreducible aspect of difficult-to-formalise social relations in the following terms:

Economic strategies of self-help frequently rely on social networks to access resources, including credit, information, land, physical capital, protection, labor, or work opportunities. The informal mobilization of social capital allows people to find work, make space, borrow money, stay safe, and acquire goods in a way that would not be possible if individuals had to rely on such formal networks as credit unions, consumer and labor markets, formal private and public housing, and police and welfare systems.7

While we would tend to avoid the discourse of social capital, our inclination is to agree with Tonkiss’s prescient assessment of the productive heterogeneity of difficult-to-formalise social relations. This is not least because Tonkiss’s emphasis on the multiplicity of meshwork relationships helps to remind the architect that her most politically potent actions could be those that help defend the realities of heterogeneous social relations, rather than replacing them with the monotonous dead capital of new superblocks that tend to scrape the sky. Still, it remains important to note that the specificity of these complex, heterogeneous social relations include forms of violence and coercion that cannot be easily dismissed; additionally, the very conception of autonomy at stake in readings of informal social relations is also a matter of continuing debate.

Deferring for the moment the particular subtleties of this discussion regarding the autonomy of the urban poor, we can still productively move on to examine the discourse of autonomy as it has appeared within the field of architecture.

As if caught in a perpetual refrain between an illustrious past and a condemned future, the concept of autonomy within contemporary discussions of architecture tends to return to the reactionary claims issued by architects in the mid- to late twentieth century, which suggested the social forces acting on the practice of architecture were ultimately peripheral and, joco facto, negligible. Fortunately, even within the discipline, this bad infinity reiterating a reductive discourse of autonomy has witnessed important moments of contention, Pier Vittorio Aureli’s recent book The Project of Autonomy not least among them.8 Aureli develops a reading of the Greek-French philosopher Cornelius Castoriadis, who closely examined the complex origins of the idea of the autonomy of the subject in relation to technological developments in the European Enlightenment. Aureli explains that, according to Castoriadis, the period from the European Enlightenment (1750) to the so-called sunset of totalitarianism (1960) was characterized by the convergence of two beliefs: in the autonomy of the subject, and in the unlimited expansion of the rationality implicit in technological development. [...] Rationalism was a mentality immediately appropriated and forwarded by the expanding and totalizing reach of capitalism.8 Aureli continues: ‘Indeed, capitalism was not simply a process of accumulation, but a scientific understanding of capitalism’s continuous innovation, its incessant revolution of production, consumption, and finance. For Castoriadis, capitalism in this way incarnated a new social imaginary, predicated on the unlimited expansion of rational mastery of the modes of accumulation.’9 Aureli’s ‘project’ is therefore an excavation of the concept of political autonomy as it developed in the writing of Mario Tronti and, more broadly, in Italian Operaism (Workerism) and Autonomism in the 1960s and 1970s. Through this excavation, he demonstrates a trajectory within the discourse of autonomy typically excluded from architecture altogether. More precisely, for Aureli the project of autonomy that leads from European Enlightenment thinkers such as Immanuel Kant all the way to the Italian Autonomia movement is a project of reassembling the relation between the imagined ‘autonomous’ subject and his rational, technological determinism. For Aureli then, the autonomy of politics – the irreducibility of the political dimension of human life – is, in fact, the permanent, ongoing negotiation of the ‘subject’ as such. The subject, whether conceptualised as autonomous or structurally conditioned, is thus the outcome of a process of negotiation that is necessarily political. Returning to the question of adaptation, then, we can postulate the following preliminary formulation: the imagined autonomy of the European Enlightenment subject, like the imagined autonomy of architecture, is itself the outcome of politics, not its precondition. From this perspective, we assert that the autonomy of architecture can only be conceived in terms of relations of power that make it fundamentally social and political, and therefore entirely imbricated in a multi-centered, multi-scaled world within which it must negotiate, and renegotiate, its position as a practice of liberty. In our view, autonomy is not the goal of architecture, but the precondition for the development of its adaptive capacity within the world.

To more fully open up the three conceptual backformations of autonomy, development and environmentalism to a more radical reconsideration, we need to understand how architecture operates within conditions of postnatural hypercomplexity. Specifically, our research considers those spaces in the city of Jakarta where water dramatically pressurises the relationships among human actors, infrastructural systems, and the various material agencies that mediate both everyday life and emergency situations. As architects, we examine how water acts socially, politically, and physically. In order to position the potential agency of architecture in Jakarta, it is worth staging the context of the water politics central to the project of Architecture + Adaptation. To do so, we offer one especially compelling example to demonstrate how water shapes the practices of liberty, the social relations and the distribution of space, all of which, in their co-constitutive relations, provoke the question of how architecture practices can develop more liminie and responsive adaptive capacities.

On 26 January 2013, major floods were predicted for Jakarta. It was the height of the rainy season and rainclouds were moving south toward the city, which had already been inundated for most of the month, with many areas operating in fits and starts under the strain of enduring flood conditions. The city governor declared a state of emergency, and 100,000 people were evacuated from their homes. The impending precipitation happened to coincide with the rise of a full moon, whose influence allows the tides to reach their peak height, at which point they tend to break the shoreline and reach deep into the north end of the city. In addition to these atmospheric and cosmic forces, Jakarta’s location within a shallow delta, which fills with water during heavy rainfall due to the drainage of the mountains to the south, further exacerbated the state of emergency. This geologic condition, expedited by the impervious surfaces that constitute the extensive urban footprint and thus increase the flow of water into the city, meant that on this day the water of the banjir (flood) would come from all directions at once.

Firdaus Ali, a hydrological engineer from the Universitas Indonesia, predicted the worst floods of the year with an announcement that resounded in the media and struck a note of fearful anticipation throughout the city. According to Ali, the floods would likely be worse than those of 2007, when over 200,000 residents of Jakarta were displaced. The recently elected populist city governor, Joko Widodo, tried to comfort the city with claims that he could divert the rain before it would reach the burdened and largely dysfunctional canal system. He had already taken extraordinary measures in declaring a state of emergency, and he would do so again; this time, the Agency for the Assessment and Application of Technology (BPPT), who had been “waging a war” against the rain, were to use emergency measures to dump salt, from ageing warplanes, into the approaching storm clouds before they reached the city. Salt, a desiccant, would draw the moisture from the clouds and cause it to rain over the ocean before the precipitation hit the city. With this proposal, the anticipation of banjir connected the present emergency to the mythical past as the power of the governor was extended to the atmosphere, whereby he would combat the unholy alliance of atmospheric, cosmic and geologic forces through a fleet of airplanes indicating the modernity of the Indonesian military.10

Instead, it did not rain on 26 January; it remains unclear whether the salt bombs were effective or whether other, less tangible forces changed the rainclouds’ course. However, on the verge of this banjir, the typically unconsidered infrastructure of the city – its obscure network of canals, drainagepipes and sewers, and all the small pieces of city life that often lay unnoticed and overlooked – was connected to the cosmos. A sewer was suddenly connected to the gravitational pull of the moon; a canal was related by its proximity to the geology of the nearby mountains; and pipes that would have doubtlessly been overwhelmed were potentially spared through an act of atmospheric warfare. The impending evacuation of residents in the north was similarly linked to this cosmological event. While inundation is typical in the north, this time the water

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so persistently inundated other parts of the city that it forced the experience of banjir across a larger spatial territory and broader social range, from the north all the way down to the more affluent southern and eastern edges of the city. This new territory of experience suddenly made the water politics of Jakarta, by way of a vast and continued inundation, sensitive. This redistribution of the sensible, then, connected the reality of banjir to the urban poor as well as the middle and professional classes, challenging the modes of inhabitation and settlement across classes and income levels.

If we required a localised metaphor for the reality of global climate change, a more exemplary case would be difficult to find. Nevertheless, it is necessary to remember that, despite the common experience of banjir occasioned by the allied forces of atmosphere, geology and cosmos, the affected residents of the city do not share the same capacities for responsive action. Unequal exposure to risk is a condition of city life in Jakarta that is not easily erased, even by the worst flood conditions. In this regard, flooding, like climate change, makes the unequal exposure to environmental risks and benefits a matter of politics.

Celebrations of economic prosperity in Southeast Asia are necessarily politicised by focusing attention on the inequalities that persist alongside the varying trends of financial growth, increased exports and other measures of disproportionate accumulation. While financial excitement about a ‘world-class’ Jakarta follows closely the development of the World Bank–funded Jakarta Urgent Flood Mitigation Project, with its promise of delivering increasing speculative attention to Indonesian markets, the question of what kind of affinities, solidarities and support structures can be developed to prevent these economic trends from simply reifying the division between extravagant affluence and extreme poverty must be asked now – and this question must be asked by architects.10 Here, the work of the architect is also part-translator, part-analyst, part-negotiator and part-interlocutor who, among the forces of financialisation as urbanisation that efface capacities for self-determination among the urban poor, asserts her practice as decisively political. Our contention is that the future of hypercomplexity in Southeast Asian megacities will witness either a realignment of political economic divisions between the extremely affluent and the neglected urban poor, or, as our research platform attempts to do, begin to develop new affinities between urban researchers, architects, landscape architects and the urban poor, to challenge the inequalities of resource availability, unequal exposure to environmental risks and benefits, and urban health and wellbeing.

Among the various postnatural systems and social relations pressurised by the slow violence of climate change and the vicissitudes of financial speculation, we offer these matters of concern as areas of consideration for other designers who are likewise attempting to shape their practice in such a way that allows for a greater attention to, and interference in, the conditions of everyday life among urban struggles for self-determination, mutual aid, and spatial and environmental justice.


2. Ibid., p. 51.

3. Ibid., p. 7. Briefly, the Anthropocene (Latin, ‘dawn of humankind’) is a geological epoch of human-induced planet-wide change. The proposed epoch is set to start on or around 1960, the beginning of the nuclear age. See, for example, Paul Crutzen and Eugene Stoeter, The Anthropocene: an geological epoch of human-induced planet-wide change, *Science* (15 April 2000).

4. Ibid., p. 8.


6. The kampung is one of the basic urban units of Jakarta. Retained ethnographically by both urban and village, the kampung has semi-articulated thresholds and in often a very close, linear urban pattern that can include both small and large individual residences. These villages often contain a spectrum of ethnic diversity and income levels; likewise, they often include both rural social structures from the archipelago or elsewhere. See AbdouMaliq Wilson, *City Life from Jakarta to Dakar: Encounters among Design, Deep Time, Science and Philosophy* (Cambridge: MIT Press, 2013).


9. Ibid., pp. 9–46.

10. Ibid., p. 8.


12. See, for example, the Emerging Trends 2014 report by Pricewaterhousecooper, published jointly by the World Bank and Pricewaterhousecooper, which ranked Jakarta as the best city globally for real estate investment.


All images from the January 2013 floods, Jabodetabek, Indonesia; courtesy of David Hutama.