

Air's Substantiations

For Berkeley Environmental Politics Colloquium

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Preface

Thank you for reading my work. I am looking forward to getting your feedback. This piece is a kind of bridge. It is the final chapter of a book I am finishing on knowledge practices in environmental politics in Hong Kong. At the same time, its object of analysis, the methods I employ to understand it, and the experience of groping for language to render and assert air's materiality without resorting to tropes and analytics of solidity are the central motivations for my next book project. So it is both an ending and a beginning.

Let me say a few words about this next project, provisionally titled, "The Making of Political Atmospheres," and some working concepts that I am trying out. Empirically, my goal is to write an account of modern air politics. The loose category of "air politics" is meant to coordinate the analysis of a number of distinct developments, such as practices of atmospheric and chemical monitoring by individuals, organizations, and government bodies; controversies concerning trans-border pollution and trans-specific contagion; the politicization of asthma; the emergence of carbon economies; and the roles of air and notions of nuisance in environmental law. In other words, I am concerned with political atmospheres of several types, with particular interest in how bodily and technical capacities for sensing and negotiating the the atmosphere are coming to be cultivated across a number of situations by a diverse array of actors.

At the same time, my goal is to think harder about what constitutes a political "atmosphere." "Atmosphere" is a term used commonly for denoting a generally shared sentiment or feeling, yet it enjoys little analytic traction, largely because it is often impossible to specify what exactly constitutes the atmosphere (or, sometimes, "climate") of a moment or location. By attending to the material practices through which people come to know and politicize the literal atmospheres around us, I hope to develop some conceptual tools for understanding the mechanics and

processes through which figurative atmospheres --sudden senses of common-hood, resonating political sentiments, mobilized affects-- come to shape and take hold of political collectivities. In other words, rather than dismiss an analytic of political atmosphere for vagueness, I am interested --precisely as it were-- in the ways vaguenesses gain or lose traction in the constitution of atmospheric politics and subjectivities, and the ways these vaguenesses are generated and shared through the use and propagation of particular technologies and techniques for sensing and making sense of shifts in one's milieu. "Affective atmospheres," to borrow geographer Ben Anderson's felicitous term, are fundamental to political mobilization, both in and beyond environmentalist spheres.¹

Peter Sloterdijk lurks here. For Sloterdijk, the contemporary notions of air and atmosphere as "objects of explicit provision and aerotechnical, medical, juridical, political, aesthetic, and theoretical-cultural care" are reactions to, aftershocks of, atmoterror, a technique and logic of power inaugurated by German troops' first use of chlorine gas in 1915, shifting war from an assault on bodies, to an assault on a body's total total environment.² I take this point, but find myself more compelled by atmosphere's current life than its origins. Doctor's efforts to substantiate the daily mortality risks of poor air quality, the work of asthma activists in mapping ecologies of injustice,³ efforts to politicize sick building syndrome and multiple chemical sensitivities in the face of scientific uncertainty,⁴ the galvanizing of a lackluster democracy

¹ Anderson, Ben. *Affective atmospheres*. *Emotion, Space and Society* (2009) vol. 2 (2) pp. 77-81

² "Only in reaction to terrorist deprivations could air and the atmosphere —primary means of survival in physical as well as metaphorical senses— become objects of explicit provision and aerotechnical, medical, juridical, political, aesthetic, and theoretical---cultural care. In this sense, the theory of air and the technology of climate are neither mere sediments of war and postwar knowledge... instead, they are above all primary postterrorist forms of knowledge." Sloterdijk, Peter. *Airquakes*. *Environment and Planning D: Society and Space* (2009) vol. 27 (1) pp. 41-57, *Airquakes*, 48

³ Mitman, Gregg. *Breathing Space : How Allergies Shape Our Lives and Landscapes*. New Haven: Yale University Press, 2007.

⁴ Murphy, Michelle. *Sick Building Syndrome and the Problem of Uncertainty : Environmental Politics, Technoscience, and Women Workers*. Durham N.C.: Duke University Press, 2006.

movement in Hong Kong by face-masked mobilizations criticizing governmental action concerning SARS — these and others point to futures for atmospheric politics not fully determined.

I have a few working concepts that I'd like to share. They are rough and sketchy, but I'd rather let their edges show. I'm using them to grope for something, and I'd appreciate your help thinking things through.

Atmospheric ontology is one. (Hence, the original title of this talk, "On Atmospheric Things.") I am trying to explicate what Jane Bennett might call the "thing power" of atmosphere (though I think "thing power" is itself an atmospheric concept.)⁵ I mean ontological in much the same way my colleague Jim Griesemer does when writes of the "ontological commitments" that make scientific research possible (Griesemer, m.s.). Griesemer has been thinking for much longer than I about the multiplicities of social worlds —often with disparate interests, conceptualizations of problems, and methods of analysis— that convene around particular boundary objects. Now he is thinking more about how to characterize the commitments catalyzed by conceptualizations of problems in evolutionary biology through particular kinds objects, such as genes, groups, species. Griesemer call these practical commitments —to particular pieces of equipment, research designs, questions— "ontological" as an argument against philosophical dismissals of such practical commitments as "mere" pragmatics. Pragmatics *are* ontologies; enacting is thinging — and things like the species concept enact and elicit ontological commitment.

In this spirit, I am hypothesizing that atmospheric politics have a particular affective force because of some specificities about the ontological commitments attending their apprehension as atmospheric. This has led me to flag a few issues that I think are ethnographically "native" to atmospheres and atmospheric politics, which I'll call Simultaneity/Singularity, Suspension, and Substance.

Simultaneity/Singularity is an unwieldy formulation, but the issue I am trying to flag for myself here is straightforward, namely that the atmosphere is not simply "the atmosphere

⁵ Bennett, Jane. *The Force of Things: Steps toward an Ecology of Matter*. *Political Theory* (2004) vol. 32 (3) pp. 347-372

multiple,” *pace* Annemarie Mol, though it certainly has multiple ontologies.⁶ The point is not to argue its multiplicity. This is unnecessary, it’s the starting point for atmospheric scientists and people suffering from poor air quality. Air is an aggregate; a mixture of gases, a suspension of solid (particulates) and liquid (aerosols) in a gaseous medium. Claiming the singularity of atmospheric ontology is to assert, perhaps paradoxically, that this very commonsense-ness of multiplicity —the sensation of confronting simultaneous, parallel, sometimes incompatible units of analysis, methods of sensing, etc.— is a singular feature of what I am terming the atmospheric. Kim Fortun’s work on environmental informatics shapes my thinking a great deal here.⁷ One point I take from Fortun is that navigating layers upon layers of differently scaled data, yields a sensation of incomplete knowledge, a vertiginous sense that there is always something in excess of the explanation. Even if one can pinpoint or materialize a particular particulate, toxin, or a classed spatial disparity, the solidity of evidence yields to an atmospheric tension, a sensation that there is also always something more.

Suspension is serving me as a useful, if simple, figure for thinking this simultaneity. Suspensions imply more than one substance. To care about and for one’s atmosphere means attending to the intra-actions between living things and substances in suspension, as well as to the fluid dynamics and movements of their medium.

Finally, substance. While substance primarily does the work in this paper of asserting a materialism and process of materialization, I wonder whether the unspoken privileging of a notion of substance merits more interrogation as I move forward. Philosophers of chemistry disagree, for instance, whether chemistry is a science of substances or reactions, or even what

⁶ Mol, Annemarie. *The Body Multiple: Ontology in Medical Practice*, Science and Cultural Theory.

Durham: Duke University Press, 2002. Stacey Langwick takes pushes questions of ontological politics into postcolonial terrain in *Bodies, Politics, and African Healing : The Matter of Maladies in Tanzania*. Bloomington: Indiana University Press, 2011.

⁷ Fortun, Kim. Environmental information systems as appropriate technology. *Design Issues* (2004) vol. 20 (3) pp. 54-65

counts as a substance.⁸ This instability of the very notion of substance in chemistry seems important to retain for an ontological account of atmospheric politics. At the same time, I am provoked by anthropological theories of kinship that address “the constitution of groups or political community through exchange and transaction,”⁹ and that maintain as an open question the relationship between kinship and shared substance. Thinking through them helps me keep open the question of what kinds of relations, affinities, persons, political subjects, and political collectivities, might form through the transmissions and circulations of atmospheric substances.

Noticing Air

Hong Kong writer Xi Xi opens her experimental short story “Marvels of a Floating City,” a mixed-media piece that weaves together brief narratives and reproductions of paintings by René Magritte, with a fantastic image of a metropolis—a thinly veiled Hong Kong—emerging from the sky.

Many, many years ago, on a fine, clear day, the floating city appeared in the air in full public gaze, hanging like a hydrogen balloon. Above it were the fluctuating layers of clouds, below it the turbulent sea. The floating city hung there, neither sinking nor rising. When a breeze came by, it moved ever so slightly, and then it became absolutely still again.

How did it happen? The only witnesses were the grandparents of our

⁸ For instance, see Joseph Earley Sr. “Chemical ‘Substances’ That Are Not ‘Chemical Substances’”. *Philosophy of Science* (2006) vol. 73 pp. 841-852. I’m indebted here to Jake Kosek and Cori Hayden for lively discussions about chemopolitics.

⁹ Hayden. *Kinship Theory, Property, and the Politics of Inclusion*. *Signs: Journal of Women in Culture and Society* (2007), p343.

On questions of substance in anthropological theories of kinship, see Janet Carsten. *Substantivism, Antisubstantivism, and Anti-antisubstantivism*. in Franklin, Sarah, and Susan McKinnon. *Relative Values : Reconfiguring Kinship Studies*. Durham, NC: Duke University Press, 2001.

grandparents. It was an incredible and terrifying experience, and they recalled the event with dread; layers of clouds collided overhead, and the sky was filled with lightning and the roar of thunder. On the sea, myriad pirate ships hoisted their skull and crossbones; the sound of cannon fire went on unremittingly. Suddenly, the floating city dropped down from the clouds above and hung in mid air.¹⁰

I love this image. It transforms a city that can feel dense and overwhelming into a thing of quiet and delicacy. Xi Xi shows Hong Kong as a place moved by the slightest touch of a breeze, as a place that can become absolutely still. It reminds me of the Hong Kong I sometimes encountered on late-night walks past the government buildings, while taking the slow ferry between Hong Kong and Lantau Island, and at times while sitting on MTR subway trains when, following the example of many others around me, I would put on my headphones and take a nap.

Xi Xi's conceit also turns Hong Kong into something like a natural object, something nearly elemental. The city's mercantile and military origins become almost atmospheric, a storm depicted by layers of clouds and a sky filled with flashes and roars. The pirates themselves—the British Lord Palmerston and the others—are absent in this picture (their presence is marked only by the crossed flag that is raised into the sky), but the meteorological impact they had in birthing the floating city is made clear.

Xi Xi's pairing of city and sky is fanciful and metaphoric—the images of dangling and floating recall the questions about an uncertain future that preoccupied Hong Kongers in the late 1990s—but for me, Xi Xi's image is particularly compelling because it also invokes something profoundly literal. Air is central to the understanding and experiencing of Hong Kong.

To explain what I mean by this, I need to tell another story of city and sky, this one just slightly less fantastic. In April 1999 Tung Chee-hwa visited the headquarters of the Walt Disney Corporation in Los Angeles. The visit was perhaps intended as a triumphant exercise of social capital, meant to perform and to buttress a relationship forged through a controversial agreement Tung had signed earlier that year between the Walt Disney Company and the Hong Kong government. The agreement amounted to a joint business venture. Disney would build a theme park in the Special Administrative Region, a park that would not only serve as a draw for international tourists but also (Tung hoped) provide service sector jobs to the increasing—and

¹⁰ Xi Xi, *Marvels of a Floating City and Other Stories*, 106.

increasingly vocal—ranks of the unemployed in Hong Kong. In return, the Hong Kong government would be the primary investor. The agreement would be criticized roundly for its environmental oversights as well as for the economically vulnerable position it forced upon Hong Kong. At least in the Walt Disney Company, though, Tung had a supportive ally. They were in agreement: a world-class park for a world-class city was exactly what Hong Kong needed.

Unfortunately, Tung's visit to Los Angeles was marred by more doubt and criticism, this time from Disney itself. Michael Eisner, Disney's chief executive officer, took the opportunity to express concern about the poor air quality in Hong Kong, noting that it did not mesh particularly well with the family image that Disney so prided itself on cultivating. Eisner never said explicitly that Disney's continued participation in the theme park idea hinged on smog reduction. But people with whom I later spoke—shopkeepers, environmental activists, and taxi drivers alike—would interpret the event as more of a threat, as though Eisner had taken Tung aside and whispered in his ear that Disney would pull out if Hong Kong's air quality did not improve.

One could have remarked upon the irony inherent in this moment when a corporation based in, and associated so strongly with, smoggy Los Angeles faulted another city for its poor air, but Tung made no attempt to do so. Instead, he returned to Hong Kong and sheepishly reported the exchange to his advisers and to the Hong Kong public through the news media.

The newspapers had a field day. Hong Kong had just coughed its way through the most polluted winter in its recorded history. Many residents had checked themselves into hospitals citing respiratory problems. The poor air had also forced my partner and me to relocate from our apartment in Sai Ying Pun, an aging urban district in western Hong Kong where we had been living since our arrival, to a flat in a house in Mui Wo, a village on the coast of Lantau Island. Zamira had suffered three sinus infections in six months. It was time to move.

I remember feeling a guilty sense of relief when I read the news. The extremity of the air pollution—the worst in history—made Zamira's illness, and our move from city to village, count as a moment of participation in a genuinely Hong Kong experience. Until then, I had sought to cultivate indifference toward air and air pollution. Although we, like our friends, routinely avoided waiting or walking on busy streets because the air stung our eyes and throats, and though we often left the city on weekends to escape the pollution, I consistently refused to comment upon or even to notice the air. My justification was simple, if not simple-minded: the

people I met in my first months in Hong Kong who were most vocally critical of the air quality were almost without exception expatriate businesspeople from the United States. I did not want to be associated with them. The air pressed upon me, for instance, at a cocktail party celebrating the publication of a book by the renowned Hong Kong landscape photographer Edward Stokes. I was chatting with a representative from the American Chamber of Commerce and his wife when it happened. Hong Kong has to see, she told me, that the environment is an economic problem. Hong Kong wanted to build this Cyberport, for instance, but who would want to come to Hong Kong to work if the air was so bad? If you could not even see? This was the first time, but certainly not the last, that I heard Hong Kong's air coupled with the future of its economy.

At the same time, many of my Cantonese-speaking, Hong Kong-born friends often vocalized their suspicions that politicians who built campaign platforms on the topic of air pollution were motivated by selfish interests. Such politicians were only trying to preserve real estate values for the properties of elites, they said. So, in what I considered an ethnographer's effort to immerse myself in an ethics grounded in Hong Kong's particularity, I tried hard to act as if the air stinging my throat were commonplace, not worthy of notice.

But Zamira's illness, the record-breaking winter pollution, and the Disney debacle together forced me to take notice of the air that had been swirling everywhere around, above, and through me and everybody else the entire time I had been in Hong Kong. I remembered then that during my first field visit to Hong Kong in 1996, when I had asked officials about the pressing environmental issues, air quality was always one of the first to come up. Not only that, but air had mediated ruminations about Hong Kong's impending political transition to Chinese sovereignty. "The real concern is transborder pollution," the official at the EPD told me during an interview months before the handover in 1997. "How will we deal with the air and water pollution that comes down from the mainland?" The air is framed as a threat from the north in these pre-postcolonial months. What remained to be seen, they said, was how the Chinese government would respond to Hong Kong's attempts to reduce air and water pollution in mainland China. We will soon see, they seemed to be telling me, what the implications of the handover will be. One activist told me explicitly that they were trying to lie low, and that rather than making any political demands they would concentrate on building relationships with mainland bureaucrats before the transfer of power.

This account of my gradual awakening to the significance of air mimes a standard trope

in ethnography, that of the epiphany in, and of, the field. But it is also something else, or it can be if attention shifts away from my eventual ethnographic realization and focuses more closely on my initial attempts to disavow difficulties with the air. That disavowal was plainly an endeavor to distance myself from expatriates; it was a localizing and nativizing enterprise, one whose motivations were analytically untenable but nonetheless impossible for me to resist. If I confess that at stake in my initial disavowals was a naive dream of being a Chinese American anthropologist more able to stomach an everyday, everyman Hong Kong life than my imagined doppelgängers, the well-paid expatriates (including those of Chinese descent), it is only to point out that whatever lines of distinction I imagined—and whatever manners I saw available to identify with some people and to distance myself from others—themselves point to the key issue. Air mattered powerfully in Hong Kong. It mattered in deeply felt, variegated, and variegating ways.

All That Is Air

Air matters too little in social theory. Marx famously described the constant change that he saw characterizing a “bourgeois epoch” as a state in which “all that is solid melts into air,” and that provocative phrasing served in turn as a motif for Marshall Berman’s diagnosis of “modernity” as a shared condition in which all grand narratives were subject to skeptical scrutiny.¹¹ Yet aside from signifying a loss of grounding, air is as taken for granted in theory as it is in most of our daily breaths. This is unfortunate, because thinking more about air, not taking it simply as solidity’s opposite, might offer some means of thinking about relations and movements between places, people, things, scales that obviate the usual traps of particularity and universality. These traps themselves, it will turn out, are generated through an unremarked attachment to solidity.

To understand this attachment, it is helpful to revisit the context and afterlife of Marx’s commonly cited line. The passage where it appears is about a sweeping change:

The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the

¹¹ Berman, *All That Is Solid Melts into Air*.

contrary, the first condition of existence for all earlier industrial classes. Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind.¹²

Marx argues here that with capital as such comes a constant revolutionizing of society. This is a liveliness of capital. When surplus value is a motivating abstraction, what once were means to generate differential value—the instruments of production—can become a fetter to that project when those instruments are fixed and ubiquitous. A technology might at one time lower the costs of production or enable new forms of goods and markets, but if that technology becomes ubiquitous in a given market through others securing similar means, the advantage it offered disappears. One might try to revive dead capital through new markets, but if it cannot be resuscitated, something livelier must take its place.

Marx's rendering of this process of endless dynamism hinges on a remarkable figuration of solidity. On the one hand, solidity stands for fixity and reliability. The phrase "all that is solid" renders firm industrial society and the long-standing nature of relations among people and between people and land. On the other hand, this very fixity is itself historical. Solidity, in other words, is not fixed at all. Marx materializes this paradox of simultaneous fixity and nonfixity in his language, through his images of relations being "fast-frozen" or "ossified," for these images beg the question of what existed before the freezing and ossification. His images of solidification as a process imply a prehistory, one of pre-solidity.

There are typically two responses to such an image of the world where solidities dissolve. A philosopher might strive for some contingent conceptual fixities to make sense of this swirling about. Marx does precisely this in his analysis, and it requires an unavoidable universality. We hear in the passage a mantric repetition of "all." "All social conditions," "all fixed, fast-frozen relations," "all new-formed [relations]"—together they aggregate, yielding an image of a whole

¹² Marx, "The Communist Manifesto," 475–76.

that in turn gives way to the epochal atmospheric world of capital. Similarly, social theorists since Marx have sought to develop general terms, such as “flexible capital,” “postmodern condition,” and “neoliberalism,” to grasp and contain a world of dynamism and change.¹³

Another response, one common among cultural anthropologists today, is to refuse the universalizing gesture and perhaps even the very project of the concept. This might take the form of repudiating either the claim that “everything” is melting or the idea that there can be “whole relations” in the first place. Such abstractions kill, this response goes, doing violence to particular human lives and practices that lie outside the terms of the analysis, and such lives are accessible only through empirical work.

The first response is the one usually charged with being up in the air, with not being concerned with concrete details, particular conditions, specific lives on the ground; but in fact, both responses are of a piece. Both responses, whether universalizing or particularizing, seek solid analytic ground; and both find their ground through resort to a “one.” This is so whether the one is the unifying one of the “all,” or the irreducible particular one refusing subsumption into the general. The conceptual one and the empirical one are a conjoined pair, and both suffer vertigo without firm footing.

Air is left to drift, meanwhile, neither theorized nor examined, taken simply as solidity’s lack. There seems at first to be no reason not to let it. When solidity is unconsciously conflated with substance, when only grounding counts for analysis, air can only be insubstantial. We are stuck with the twinned ones—universal and particular—grounded, fixed, and afraid.

Environmentalists in Hong Kong, however, would press us on this attachment to the ground, as would Marx himself. The environmentalists would ask, Is not this stuff floating above and around us itself deeply substantial? As for Marx, we should remember that his claim is ultimately about a dialectics of solidity. Solidities all have a pre-solid past, and air lies in solidity’s future. As he declares in a speech during the anniversary of the People’s Paper, “The atmosphere in which we live weighs upon everyone with a 20,000 pound force. But do you feel

¹³ For instance, see Harvey, *A Brief History of Neoliberalism*, and *The Condition of Postmodernity*; Jameson, “Postmodernism, or the Cultural Logic of Late Capitalism.”

it?”¹⁴ It would be a mistake, in other words, to search only for ground when above and around us is substance aplenty. Our living with this substance, furthermore, is neither universal nor particular. Air is not a one, it does not offer fixity or community, but it is no less substantial. The question is whether we can feel it.

Hong Kong might help us feel it. From a certain point of view, there is no “air” in itself. Air functions instead as a heuristic with which to encompass many atmospheric experiences, among them dust, oxygen, dioxin, smell, particulate matter, visibility humidity, heat, and various gases. The abstraction of air does not derive from asserting a unit for comparison or a common field within which to arrange specificities, but through an aggregation of materialities irreducible to one another (including breath, humidity, SARS, particulate, and so forth). Thinking about the materiality of air and the densities of our many human entanglements in airy matters also means attending to the solidifying and melting edges between people, regions, and events.

This might help us to imagine a collective condition that is neither particular nor universal—one governed neither by the “all” nor through the “one nation, one government, one code of laws, one national class-interest, one frontier, and one customs-tariff” that Marx envisioned, nor even the “one planet” of mainstream environmental discourse. Instead, it orients us to the many means, practices, experiences, weather events, and economic relations that co-implicate us at different points as “breathers.” I like this term, “breathers,” which I borrow from environmental economics; it refers to those who accrue the unaccounted-for costs that attend the production and consumption of goods and services, such as the injuries, medical expenses, and changes in climate and ecosystems. I like the term because its very vacuousness constantly begs two crucial questions that are both conceptual and empirical: What are the means of counting costs? And who is not a breather?

The story of air’s substantiation in Hong Kong hinges on acts of condensation, and this chapter engages in parallel acts to condense that story. Consider how the pollution-monitoring stations dotting Hong Kong yield a measurement for respirable suspended particulate. Enclosed machines on rooftops and streets ingest millions of mouthfuls of wind a day, calming it so that

¹⁴ Karl Marx, “Speech at the Anniversary of the People’s Paper,” 577–78. Cited in Berman, *All That Is Solid Melts into Air*, 19.

the particles it holds can be collected to count, to accumulate enough of the particular for it to register as weight, as substance worth talking about. Miming this method, I collect the details in a diffuse set of contexts: the production of air pollution as a local and global medical concern, the material poetics of honghei (air) in daily discourse and practice, the acts of large- and small-scale comparison signaled by air, and the transformations that condense Hong Kong's air into measurable particles and then further into a particular, yet internationally recognized, metric for risk.

In short, four forms of air concern me: (1) air as medical fact, (2) air as bodily engagement, (3) air as a constellation of difference, and (4) air as an index for international comparison. Ultimately, my aim is to gain a deep understanding of all of them and to move seamlessly between their methods and registers. Rather than focusing on just one, I make a start in each of them because conveying the dispersal of air's effects and its substantiations is one of my chief aims. This has produced a text that can seem diffuse; its argument requires some work to condense. But that is exactly what people concerned with air must do: turn the diffuse into something substantive.

Air and Dying

Climatologically, there are two Hong Kongs. Beginning in May and June, the air in Hong Kong swells as winds blow in from the tropical south, bringing heat and humidity. Temperatures will range from the mid-eighties to the high nineties Fahrenheit, while the humidity hovers around 95 percent. The air sticks to you as you walk, forms a sheen on your skin as you move from an air-conditioned bus, taxi, or building to the outside. In the late summer, there are the typhoons—great oceanic whirlwinds that occasionally batter the small island with wind and rain as they spin through the Pacific. In colloquial Cantonese, typhoons are called da fung, the beating wind.

Then, around late September, the winds begin to shift. Cooler and drier air gradually blows in from the north, across mainland China and Asia. The temperatures can plunge into the mid-forties—as they did in the winter of 2000, when the streets filled with puffy North Face jackets—while the humidity drops to 70 percent. In these drier months, Hong Kong can feel temperate. In the summer, the air in Hong Kong is heavy with heat and water, but in the winter months its weight comes from a different kind of load as the cool, dry winds sweep the smoke

and soot from the skies above China's industrial factory zones into Hong Kong.

It is these sooty winter months that most likely motivated Michael Eisner to pull Tung Chee-hwa aside during Tung's visit to Los Angeles. If Eisner's criticism of Hong Kong's air was indirect and vague, the critiques voiced a few years later by Hong Kong doctors were specific and direct. In 2001 and 2002, faculty from the departments of Community Medicine at the University of Hong Kong (HKU) and the Chinese University of Hong Kong (CUHK) published separate articles in internationally known scientific journals linking Hong Kong's air pollution and declining health. The first of the two, "Effect of Air Pollution on Daily Mortality in Hong Kong," appeared in the journal *Environmental Health Perspectives*. The second, published in *Occupational and Environmental Medicine* by researchers from CUHK's Department of Community and Family Medicine, was titled "Associations between Daily Mortalities from Respiratory and Cardiovascular Diseases and Air Pollution in Hong Kong, China."

The articles' findings were chilling. Both studies concluded that acute air pollution had significant short-term health effects. More people died of cardiovascular or respiratory illness on days with bad air quality than they did on days of good air quality. The HKU study also compared warm- and cool-weather data and found that the chance of pollution-correlated mortality was statistically higher in the cool season.

Both articles take pains to locate themselves in a citational network. I mention this not to argue that citational networks are invoked to confer authority upon the articles, a point well argued by others already.¹⁵ Instead, I am interested in the warp and woof of the network being woven, for it lends a specific character to the objects and political substances emergent in it. One way to see how is through the titles of some of the citations that form the network:

Particulate Air Pollution and Daily Mortality in Detroit

Air Pollution and Mortality in Barcelona

Particulate Air Pollution and Daily Mortality in Steubenville, Ohio

Air Pollution and Daily Mortality in London: 1987–92

Air Pollution and Daily Mortality in Philadelphia

PM₁₀ Exposure, Gaseous Pollutants, and Daily Mortality in Incheon, South Korea

¹⁵ On citational networks, see Latour and Woolgar, *Laboratory Life*.

Daily Mortality and “Winter Type” Air Pollution in Athens, Greece
Air Pollution and Daily Mortality in Residential Areas of Beijing

There is a remarkable, almost numbing, uniformity to the titles. They share a syntactic structure, differing from one another through a paradigmatic substitution of terms within that structure. In each, a compound subject is first offered through a conjunction of air pollution with mortality, later to be positioned through a locating “in.” Though there are minor variations in the first half of the titles—“air pollution” might be modified as “particulate air pollution” or “winter type air pollution”—the most significant transformations take place in the second half, the prepositional phrase naming a particularity of place.

In this structure we discern something about the workings of exemplarity as political method. Through the mustering of a network of almost identical examples, and by giving their articles almost identical names, the doctors make Hong Kong an example of a much larger problem. At the same time as that example draws power from the network, it also lends stability to that network. The co-examples as a whole, as a network, substantiate a conjunction of objects—air pollution and death—differentiated only by place.

One thing to notice here is the play of particularity in the formation of political substance. Rather than jeopardizing its stability, the proliferation and accumulation of particulars is key to the citational network’s existence. The production of Hong Kong air is both a localizing and a globalizing project. Localizing because it carves out the uniqueness of Hong Kong. It lends it specificity; the hallmark of that last prepositional phrase is place-based specificity. Globalizing because it performs membership in an international community of atmospheric and medical science and in an international, global problem.

Equally important, the common form of the titles signals common method. Both articles were “retrospective ecological studies” employing “time series analysis,” a method that amounts to statistically correlating the “number of people dying on a particular day” (or a day or two later) with meteorological data and air pollutant concentrations over a long-term period.¹⁶ The

¹⁶ The CUHK group’s study spanned the four-year period from 1995 to 1998. The HKU study used data for the period 1995–97. Meteorological data was obtained from the Hong Kong Observatory, and air pollutant concentrations were obtained from the Environmental Protection Department.

statistical method used was a Poisson regression model “constructed in accordance with the air pollution and health: the European approach (APHEA) protocol.”¹⁷ The near identity of the titles in this particular citational network, in other words, is premised upon a near identity of technique. It is not enough to assert that Hong Kong’s deadly air is one example among many in the world; co-exemplarity is actualized through the standardization of technique.¹⁸

This simultaneous evocation of general problem and specificity is resonant with dynamics in other spheres. It bears comparing, for instance, with the collecting, formatting, and iterating of data in environmental informatics, creating a general problem precisely by arraying and juxtaposing particularities. As Kim Fortun observes, however, environmental informatics enables this process to be iterated across a range of sites and types of information that would be impossible to encompass in the space of a single study.¹⁹ The Hong Kong daily mortality studies discussed here would be but two among a vast library of data sets for information engineers like those Fortun describes, raising the question of the extent to which such studies might be produced in anticipation of themselves being informatted and networked. The carving out of specificity through geographic location also underscores Sheila Jasanoff’s observation that specificity plays a vital role today in legitimating claims of intellectual innovation and ownership.²⁰ What becomes clear looking across these topoi is that while specificity is at play in all these moments, one cannot take for granted what specificity means. There is no specificity in general, and the real work of specificity must be gleaned from the pragmatics of the specific knowledge practices in which specificity as a concept is figured.

To understand this, let us examine the specific conditions in which the citations appear in the Hong Kong articles. Consider this excerpt from the HKU study’s conclusion:

¹⁷ Wong, Tam, Yu, and Wong, “Associations between Daily Mortalities from Respiratory and Cardiovascular Diseases and Air Pollution in Hong Kong, China,” 31.

¹⁸ On the work of standards and standardization, see Bowker and Star, *Sorting Things Out*. Also see Dunn, “Standards and Person-Making in East Central Europe”; Lakoff, “Diagnostic Liquidity.”

¹⁹ Fortun, “Information Technologies, Practises and Economies in Contemporary Environmentalism.”

²⁰ Jasanoff, “Taking Life.”

In setting air pollution control policy from a public health viewpoint, it is important to identify the health effects of air pollutants from local data. Because of the lack of data, there are few studies based on daily hospital admissions and mortality in the Asian Pacific region. For hospital admissions there has been only one study in Australia (36) and two in Hong Kong (30,37). For mortality studies, there have been one in Beijing, China (38) based on 1-year daily data, two in Australia (36,39), and two in Korea (40,41). Our report should contribute to the understanding of the effects of air pollutants in this region and may clarify the differences in effects and mechanisms between Western and Eastern populations.

Local data on health effects of air pollution are required for setting standards and objectives for air pollution controls. When local data are not available, foreign data may be helpful, but they may not be relevant or applicable because of a difference in climate or other conditions. Our findings in this study provide information to support a review of air quality objectives with consideration of their effects on health.²¹

Here, the network (plotted by the integers corresponding with the citations at the end of the article) is invoked through a naming of its holes, “the lack of data.” The naming of the general problem is indistinguishable from the claim for the primacy of the specific.

The explicit value of the Hong Kong study is marked as clarifying differences in effects “between Western and Eastern populations.” By identifying Hong Kong’s warm, humid summer and cool, dry winter, the HKU study reminds us that we are in the subtropics; and the specific ways in which it cites its network of relevant citations give that reminder a certain freight. It identifies and locates the work of Hong Kong doctors within the terms of a center and periphery of scientific practice. As scientists in the periphery, the researchers must negotiate a double bind not unlike the one Lawrence Cohen describes facing gerontological organizations and authors in India in the 1970s, who, in appending “India” to their names and publication titles “claim[ed] local autonomy from internationalist [gerontological] discourse, but [did] so through a reassertion of epistemological subordination.”²²

²¹ Wong, Ma, Hedley, and Lam, “Effect of Air Pollution on Daily Mortality in Hong Kong,” 339. Italics added.

²² Cohen, No Aging in India, 90.

The Hong Kong doctors navigate this bind through an appeal to local appropriateness: “When local data are not available, foreign data may be helpful, but they may not be relevant or applicable because of a difference in climate or other conditions.” Note, they do not say that the category does not apply “here” or that air pollution is a Western problem; they simply maintain that better, more local data is needed. This is a supplementary strategy, one that has the potential to disturb, even while leaning upon, the centrality of temperate studies: “This study provides additional information for our previous study on hospital admissions (21), and the many time series studies on air pollution and mortality in temperate countries (1–11,13,15,17–19,28,29,33,35,38,39).”²³

The Hong Kong studies “contribute to” and provide “additional information for” the networked assemblage of other conjunctions of air and mortality “in temperate countries,” and in doing so, they help it grow. Yet at the same time, their act of “adding to” articulates through implication an inadequacy in the apparently whole original to which they contribute.²⁴ The Hong Kong doctors’ exemplification of Hong Kong names geographic unevenness in—even while extending the reach of—an emerging coalescence of scientific and political substance.

This emergent substance is fragile stuff. Daily mortality studies face criticisms that they establish no causal link or proof of impact in the long term. Some epidemiologists, for instance, argue that even if one can show that the number of people dying on a day with high air pollution is significantly greater than on a comparable day with lower pollution, the early deaths might be of people who had little time left to live anyway.²⁵ Those most vulnerable on high-pollution days

²³ Wong, Tam, Yu, and Wong, “Associations between Daily Mortalities from Respiratory and Cardiovascular Diseases and Air Pollution in Hong Kong, China.”

²⁴ Homi Bhabha, following Derrida, elaborates the disturbing power of “being additional” in a postcolonial situation. “Coming ‘after’ the original, or in ‘addition to’ it, gives the supplementary question the advantage of introducing a sense of ‘secondariness’ or belatedness into the structure of the original demand. The supplementary strategy suggests that adding ‘to’ need not ‘add up’ but may disturb the calculation.” See *The Location of Culture*, 155.

²⁵ For an example of this form of argument, see McMichael, Anderson, Brunekreef, and Cohen, “Inappropriate Use of Daily Mortality Analyses to Estimate Longer-Term Mortality Effects of Air Pollution.”

are those with fragile health or in advanced stages of terminal illness, the argument goes. This is termed a “harvesting effect.” Those who died were going to die soon; they were simply harvested early. Long-term cohort studies are needed to determine precisely how many, if any, person-years have been lost. Only with such data, this argument concludes, can the extent to which air pollution decreases life be understood.

Such a refusal to recognize air’s daily effects by scaling time out seems absurd at first, but we should recognize it as a logical side effect of rendering illness and health into prognosis. As Sarah Lochlann Jain illuminates in her analysis of “living in prognosis,” a prognosis—which assigns people a certain percent chance of being alive in the next number of years based on when others considered to be in comparable medical and demographic categories have died—puts one in the mind-wrenching position of living counterfactually, always juxtaposing one’s living against aggregated odds of dying.²⁶ The analytic of harvesting simply takes this head-wrench to the extreme, by not finding a death today worthy of note simply because most others in the same position, whether good air day or bad, did not live that much longer.

Substantiating Hong Kong air as a dangerous substance will require crunching not only numbers. It will require grappling with how to think about a cause of death when causes are multiple and overlapping, and how, when lives and causes are complex, to say when it matters that a person dies today—and not tomorrow or next year. These efforts are crucial if air pollution’s effects on health are to be grasped.

At the same time, they run the risk of narrowing our sense of what matters in human-atmospheric relations. When we ask how many more people die on particularly polluted days than would have if the air were clear, death becomes a proxy for air’s effects, and death itself is rendered a problem of lost time—which in turn prompts the demand for more accuracy in counting the time in person-years lost. (How many person-years will be spent counting person-years?) But it bears remembering that air’s human traces are found not only in those who die, their times of death, or total person-years lost, but in the fabric of living.

Air and Living

I collapsed when I got home, my stomach somersaulting like it had at the Tung Chung

²⁶ Jain, “Living in Prognosis.”

Citiplaza, where I had needed to stop at the public washroom instead of catching my connecting bus. A fever hit me that night, leaving me weak and useless. The next morning, I called Wong Wai King, my collaborator in Tai O, to cancel our appointment.

“You’re sick, eh? Yeah, the honghei these days has been really bad.”

I found this strange. The air hadn’t seemed that bad. But I spoke to others, who nodded knowingly and recalled that the air had been particularly wet on that hot, muggy day.

The link forged by the doctors between air and health was not novel or isolated. Nor, as Wong Wai King and others helped me to see, was air’s impact on health in Hong Kong limited to its particulate load. Already circulating was an existing discourse of honghei and health. Reviewing my notes back in San Francisco, I noticed this entry from August: “Ah Chiu has been sick. She got a cold or something. It’s a common thing to get colds out here in the summer. Nobody thinks it’s strange, because they all know that when going in and out of air conditioning, you can get really cold and then sick.” My notes and memories are dotted with such commentaries. Sometimes, I was told, it was too hot. Other times it was cold, dry, or wet.

In Traditional Chinese Medicine texts, honghei (Mandarin: kōngqì) denotes one of two sources of acquired hei. The other source is food. Hei, widely recognized in its Mandarin pronunciation, qì, is the fundamental life force in TCM, often translated as breath. Honghei is thus a breath in two senses; it is a source of vital breath, and it is breathed. In everyday use, honghei refers to the air in one’s surroundings.

Though breath is vital, wind is dangerous. “Wind is the first evil,” my acupuncturist, Marliese, explained to me. “It opens the body to secondary ills.” Historian of science Shigehisa Kuriyama offers a beautiful account of the central role played by wind (Mandarin: fēng; Cantonese: fung) in the history of Chinese medical conceptions of the body. He highlights the tension that existed between, on the one hand, feelings of an ultimate resonance between the body’s breath and the surrounding winds and, on the other, anxieties about human subjection to chaos, where humans were opened to irregular and volatile winds by their skin and pores. Through close study of medical and philosophical texts, Kuriyama shows clearly that “meditations on human life were once inseparable from meditations on wind,” in both Chinese

and Greek medicine.²⁷

What most strikes me in Kuriyama's account is his attention to language—both in the ancient texts he studies and in his own writing. Wind and air whistle through his writing as much as they do through the texts he analyzes. Listen, for instance, to his discussion of the connection that the philosopher Zhuangzi drew between earthly winds and human breath.

The winds of moral suasion, the airs that rectify the heart, and now the heavenly music of gaiety and sadness. All these bespeak a fluid, ethereal existence in a fluid, ethereal world. A living being is but a temporary concentration of breath (qi), death merely the scattering of this breath. There is an I, Zhuangzi assures us, a self. But this self is neither a shining Orphic soul imprisoned in the darkness of matter, nor an immaterial mind set against a material body. Anchored in neither reason nor will, it is self without essence, the site of moods and impulses whose origins are beyond reckoning, a self in which thoughts and feelings arise spontaneously, of themselves, like the winds whistling through the earth's hollows.²⁸

By allowing the air to permeate his own figurations and similes, Kuriyama conveys to his readers Zhuangzi's theorization of human permeability and impermanence more vividly and viscerally than a less writerly account could. Later Kuriyama will show how much more dangerously the winds are figured in subsequent texts, and it is this sense of wind's danger that my acupuncturist in California inherits through her study of TCM.

Air's meanings in Hong Kong seem to exceed this classical medical genealogy. Among people I have known in rural and urban Hong Kong, good fung characterizes good places. Wind's ubiquity, however, and the way it wends its way into everyday talk recall the inseparability of wind and life that Kuriyama describes and the lyrical trace of an imminently atmospheric sense of the self and health. Meditations on life through wind are as prescient as ever.

In Tai O, the air is on the tip of people's tongues. "Hello, good day. Nice fung today,

²⁷ Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*, 236.

²⁸ *Ibid.*, 245.

isn't it?" The old men sit on the benches by the Lung Tin Housing Estate, Dragon Field, facing the road that connects Tai O to the rest of Lantau Island, watching the hourly bus come in with visitors. Their shirts are loose. The breeze curls through Lung Tin, finds Wong Wai King sitting on the concrete steps outside her bottom-floor apartment. She sips some sweet water, closes her eyes, and plays her guzheng. "Wah, hou shufuhk," she tells me. "Ah, it's so very shufuhk."

The word shufuhk means "comfortable," but also more. When people say they're not shufuhk, they mean they're not well. Conversely, when Wong Wai King and others tell me that they're shufuhk, they tell me that they are experiencing a saturating pleasure. Like a cool breeze on a hot sticky day. A clean bed. Or the way a cup of tea might warm you from the inside when you're cold. The word is ubiquitous.

Places are made into living things through a blend of landmark and language, as anthropologists of place have taught us to see, and the air in Hong Kong is undeniably part of the rhetoric of its place.²⁹ But air, polluted and otherwise, is a daily materiality as well as a symbolic field. To explore a material poetics of place, and air's function with it, we need to ask after the material and meaningful ways in which air enters into human and geographic life as such. For the notion of a poetics of place to have any teeth, for it to do more than simply legitimate linguistic study as a study of something linked to the material world, we must also go after the nonverbal ways air operates poetically. How does air serve as a meaningful and material unit in the building of Hong Kong? Let us take an atmospheropoetic tour.

Some of the neighborhoods I choose for this tour are among Hong Kong's most famous. Central is the financial heart of Hong Kong and its government, whose illuminated towers, set against a foreground of the green waters of Victoria Harbour, adorn most of the stereotypical tourist images of Hong Kong. Less celebrated internationally but well known both in Hong Kong and in tourist literature is Mong Kok, a district on the Kowloon Peninsula. For many, Mong Kok is the antithesis of Central. Mong Kok is commonly held to be more Chinese than Central. While English appears on shop signs and restaurant menus in Central and sometimes comes out of shopkeepers' mouths, it is rare in Mong Kok. Whereas Central offers at least some Western comforts, Mong Kok caters to Hong Kong Chinese and to tourists seeking a flavor of Chinese

²⁹ See, for instance, Feld and Basso, eds., *Senses of Place*; Raffles, *In Amazonia*; Rodman, "Empowering Place."

alterity within Hong Kong.³⁰

Tai O should be considered a part of this tour, along with Lung Kwu Tan and Ha Pak Nai. Tai O, as we saw in chapter 2, is a popular destination for domestic and foreign tourists, though not long ago it was considered a dirty backwater. Lung Kwu Tan and Ha Pak Nai, which we encountered in chapter 4, are relatively less well known villages in Hong Kong's New Territories, hemmed in by a power station and a landfill and facing the impending construction of a municipal waste incinerator. With their inclusion, another axis of difference becomes clear. Central and Mong Kok might in isolation evoke an imagined opposition between Western and Chinese in Hong Kong, but when Tai O, Lung Kwu Tan, and Ha Pak Nai become stops on our tour, Central and Mong Kok find themselves partners in urbanity set against the rural New Territories.

Central. In the winter the air in Central sweeps in dark swirls through Connaught Road, blowing under squealing double-decker trolley cars before whirling up Pedder Street toward Lan Kwai Fong, Central's famed restaurant and bar area. It chases the heels of trundling buses and racing taxis, and flings gusts of soot at the ankles of the pedestrians waiting at the crosswalk, who, almost in unison, lower their heads and cover their mouths and noses with a hand or handkerchief—a loosely synchronized nod and an almost instinctive gulp of held breath—as the wake of air washes over them.

Lung Kwu Tan. In Lung Kwu Tan and Ha Pak Nai, two villages in Hong Kong's Northwest New Territories, the air smells cleaner at first; it doesn't smell of diesel. There are fewer buses out here. Fewer taxis. But it does smell of garbage, of the garbage water that leaks from refuse trucks. People talk about the dust that settles on their vegetables from the cement factory's smokestack. Then there are the flies that fill the air, making you want to keep your

³⁰ Mong Kok's role in imaginations of Hong Kong is illuminated by the neighborhood's selection as a challenge in an American reality television show. Contestants were asked in other parts of Hong Kong to complete tasks such as lowering a shipping container with a crane or finding the tallest building in Central. In Mong Kok, however, their task was simply to find a certain tea shop where they would be asked to drink a bitter tea. Mong Kok's tightly packed and sporadically marked streets drove at least one contestant to tears.

mouth more tightly closed while breathing. Now residents are worried about what else might come from the air if the government builds its incinerator here. Dioxins, says Rupert, the most poisonous substance humans have ever created.

Still, the air is on the water, and this yields cool breezes. On weekends it fills the sails of windsurfers and carries the scent of visitors' barbecues, even if the occasional atmospheric shift wafts reminders of the cement factory, power station, and landfill nearby.

Mong Kok. In Mong Kok, a neighborhood on the Kowloon Peninsula that has been called the most densely populated area in the world, the winter winds are as sooty as those in Central. Dust expelled from the backs of abundant buses, trucks, and taxis barely settles before it is stirred up again. Pedestrians cross the street with the same nodding gestures as in Central. Off the street, though, the winter wind might find itself broken by a crowd, trapped and thawed by the press of people gathered to shop and play.

The same is true a bit farther north, in Yau Ma Tei, where there is also the night opera. Two women are performing, one middle-aged with glasses, leaning deliberately toward her microphone under bright incandescent lights. The musicians sit to the left, one smoking a cigarette while he plays his erhu. The music, the voice, they quaver. They sound like old radio. The air is full too, with the sticky smell of cow parts being stewed, durian, skewers of pork, oyster omelets, clams and black beans. The scent of diesel fades into memory, and the cold air, defeated, rises to the overlooking skyscrapers in warm ripples.

We have taken a slight detour from the issues of health that first brought us to consider the air. But we have retained the issues of the body, the question of immediacy—the coughs, the instinctive intakes of breath. Part of air's substantiability in Hong Kong comes from the fact that it is always breathed.

The poetic mattering of Hong Kong's atmosphere encompasses not only Wong Wai King's rhapsodic "Wah, hou shufuhk," but also her sip of sweet water, the placement of her chair, and the coughs and nods of the pedestrians aiming to cross the street in Central. Air's poesis, the coproductive engagements between people and air, range from commentary, to breath, to avoidance, to the flip of an air-conditioner switch. Put another way, air is not only an object of cultural commentary, and not only a nonhuman materiality always already enmeshed in webs of social and cultural practice. It is something embodied that engages with humans through

bodily practices. The smell, breath, wind, weather, typhoon, air conditioning, air pollution, height, verticality, science, sound, oxygen, smoking. The tactility of the atmosphere.

Anthropologist and musician Steven Feld has argued that sound and voice provide a useful point of entry for apprehending relations between person and place.³¹ He identifies the sonic resonance of the human chest cavity as a central feature of the links and feedback loops between people and their environments. How similarly fruitful might an anthropology of air be, an anthropology of this stuff sensed in and through the moment of bringing breath into the body, or at the moment when wind opens the body to ailments? Air muddies the distinction between subjects and environments, and between subjects. This thickness and porosity rendered by air is part of what makes the air and the airborne such deeply felt elements. Bodies may be, as the geographer David Harvey argues, intersections of large- and small-scale spatial practices;³² but if bodies are an intimate location of effects and agencies, air is the substance that bathes and ties the scales of body, region, and globe together, and that subsequently enables personal and political claims to be scaled up, to global environmental politics, and down, to the politics of health.

Air's Comparisons

In August 2000 a feature entitled “A Breath of Fresh Poison” was published in the South China Morning Post. In the article, readers are introduced to a sympathetic character, Fred Chan Man-hin, who had recently returned to Hong Kong from Canada to start a company. He initially “planned on being here forever,” he tells the Post, but “the pollution has affected my decision. I can’t work and be sick all the time.” Today Chan “avoids his office in the Central business district because the pollution gives him dizzy spells and migraine headaches. He has spent tens of thousands of dollars on doctors and tests to find a cure for the allergies, viruses, and exhaustion that he cannot seem to shake.”³³

The article throws into relief a signature feature of air’s substantiation as a problem in Hong Kong. It does not merely recount Chan’s unshakable health woes; it makes a pointed

³¹ Feld, “Waterfalls of Song.”

³² See Harvey, *Justice, Nature and the Geography of Difference* .

³³ Ehrlich, “A Breath of Fresh Poison.”

comparison. Chan initially left Hong Kong for Canada, we are told, and he returned to make his fortune, but now the pollution might affect his decision to “be here forever.” If air constitutes a danger in Hong Kong, part of its threat derives from its capacity to serve as an index for comparing Hong Kong with Canada and other places.

This capacity of air for comparison first became evident to me through my family, particularly through jokes about how predictably those who do not live in Hong Kong get sick when they visit. My mother’s cousin, Ling, playfully chides her when she falls ill, for instance, when my parents visited Hong Kong near the end of my fieldwork. “You, your cousin Maggie, and your brother To—you all get sick whenever you come back to Hong Kong.” My mother falls ill almost every time she visits Hong Kong, as do I. Ling knows this well, as we usually go to her or her husband for antibiotics. “You’re not jaahppgwaan, not accustomed, to the air,” Ling says. “Will you still visit?”

Will we still visit? This simple question draws us back to the landscape photographer’s cocktail party, to my conversation with the American Chamber of Commerce representative and his wife, who wondered aloud how investors could be expected to come to Hong Kong if the air quality continued to deteriorate. It echoes Disney’s admonishment to Tung. Air is not only an index of health. It is an index for comparing livability, well-being, global attractiveness.³⁴

I cannot leave the matter of air’s comparability at this level of global comparison, for it misses some of the subtle comparisons and distinctions that operate within the city-state. We are now acquainted with the air of some of Hong Kong’s neighborhoods, its qualities, and its dangers; now questions of justice and equity beg to be asked. How are Hong Kong’s air spaces distributed? Who gets to occupy those with the cleanest air? Who breathes the street? Who breathes mountains? Who breathes the sea? Who breathes flies?

³⁴ For an analysis of state efforts in East and Southeast Asia to craft exceptional spaces attractive to foreign capital investment, see Ong, *Neoliberalism as Exception*. Ong adopts the term “ecologies” metaphorically to refer to the desired labor and financial conditions that are hoped to be conducive to a city’s insertion in global trade circuits. I would merely add that in the pursuit of such desires, the ecologies of landscapes, aircapes, and waterscapes can be equally subject to concern and government.

A few weeks after moving to Mui Wo, I returned to Sai Ying Pun to visit with the fruit vendor, Mrs. Chau. Ah, you've come back, Mrs. Chau said, loudly enough for passersby to hear. I smiled, a bit embarrassed, and replied that the oranges looked good. I asked her to pick some for me, and for a glass of juice, and we chatted for a while there on Mui Fong Street.

I missed Sai Ying Pun, I told her. Mui Wo was nice, but it wasn't as convenient. There were also all the mosquitoes, I continued. Expecting some sympathy, I offered my arms to show her my mosquito bites, but Mrs. Chau dismissed them with a wave and a laugh.

Sure, there are mosquitoes, she said. But I'm sure the honghei is much better there.

Of course. Of course honghei mattered to Mrs. Chau, who worked every day on the busy corner of Mui Fong Street and Des Voeux Road, just down the street from one busy bus stop, where diesel buses pulled in nearly every minute, and across the street from another. Hillary, the stationer down the street, at least had a door between the street and his shop, and his shop was air-conditioned.

Far from uniform, Hong Kong consists of pockets. Studies in the loosely Marxist or critical geographic tradition take this as an assumption—that there are social inequities, mapped and realized through spatial distinction. Through their lenses, we discern a geographically uneven distribution of environmental harm, where the rich have access to good air, while the poor are relegated to the dregs, to the smog and dust under flyovers or on the streets.³⁵ One can, in other words, discern a political-economic geography of air. The poorest air quality was initially in the urban areas, in the industrial zones. Now the bad air is being exported, as Hong Kong companies relocate their factories in Guangdong province on the mainland, where labor costs are lower and environmental standards more lax. But then the pollution comes back in those notorious winter winds.

These arguments help to ground the air in a solid sociological critique of social and

³⁵ Rachel Stern provides a convincing and crucial argument for the recognition of air pollution as a social class issue in Hong Kong. She points out that, despite the fact that the lower classes suffer greater exposure to air pollution in their occupations and in their homes, the city's elites have generally set the clean-air political agenda. See "Hong Kong Haze."

geographic stratification; for this reason they are politically vital.³⁶ At the same time, such fixings need less rigid company. When mapping the spatial distribution of social inequity, an account of air must at some point leave land-based maps, for they can divert us from the movements of air and breathers alike—not to mention mobile pollution sources, such as the taxis, buses, airplanes, and cargo ships crucial to the circulations of Hong Kong’s industries. To the geography of air and the dialectics of air and capital, I add three corollaries: (1) air is made not only in emissions but also in the respiration and movements of breathers; (2) neither those who emit particulate, the winds that carry it, nor those who breathe it sit still in places; and (3) as Kuriyama reminds us, there has always been more to air than particles.

The stratification of air spaces in Hong Kong is loosely tied to income, and incomes and occupations are also racially marked. Expatriates, with their generous compensation packages, can to a far greater extent than most people in Hong Kong choose to live somewhere clean and central. Because expatriates are visibly different, air spaces are visibly marked by the racialized and classed bodies that live, work, and play in them.

The Peak and the Mid-Levels have long served Hong Kong’s elite as airy refuges. Almost from the moment British colonists occupied the small island off China’s southern coast, they turned toward the peaks that formed the dramatic backdrop for the harbor they so desired, looking upward for some respite from the summer heat and humidity. If for mountaineers the staggering heights of snowcapped peaks presented a dream of sublimity and transformation, the Peak in Hong Kong offered to colonists a more mundane yet perhaps equally treasured transcendence of place, time, and air.³⁷ Even relatively recently, civil servants have had privileged access to apartment buildings high up.

In colonial times, people cared mostly about heat and humidity. The winter winds, whose passage through the landmass of greater Asia lent them coolness and dryness, were greeted with great pleasure. Today, that dryness and that passage through China have made winter less

³⁶ Exemplary works charting the atmospheric differentiations of social class include Murphy, *Sick Building Syndrome and the Problem of Uncertainty*; Sze, *Noxious New York*.

³⁷ For a discussion of the historical racialization of urban space in colonial Hong Kong, see Bremner and Lung, “Spaces of Exclusion.”

popular than it used to be. Real estate up high continues to be prized; now, though, it is valued not only as an escape from the hot, muggy summers but also because it promises at least some relief from roadside pollution and congestion, as well as convenient access to work and play.

The Mid-Levels, known in Cantonese as *zhong saan kui*, or the “mid-mountain area,” are found a bit downhill from the Peak, and they too serve as something of a refuge from the soot below. The apartment towers are spaced farther apart than in the neighborhoods at lower altitudes, and there are fewer cars. Commercial skyscrapers are less prevalent up here, and the common mode of commuting here is the longest covered outdoor escalator in the world—the same one that stars in Wong Kar-wai’s film *Chungking Express*. The escalator descends into Central from the top of the Mid-Levels in the morning, carrying not only local and expatriate professionals on their way to the office, but also domestic workers heading down to the markets to buy the day’s groceries. Later, at 10 a.m., the escalator will reverse itself so they won’t have to climb the many flights of stairs back to their employers’ homes. Scores of restaurants and bars have sprung up around the escalator. The escalator and the easy commute it offers into Central have made the terraced streets of the Mid-Levels a pocket of real estate that is even more highly valued today than it was in colonial times.

Much of Hong Kong seems designed to get off the ground—into the air, and out of it. In colonial times, the English built their mansions in the Mid-Levels and Peak. When I walk with Hemen, a representative of the Tsing Tao Beer Company, he wends his way expertly through Wanchai, a government and nightlife district on Hong Kong Island, without ever touching the ground. We spend the day on the walkways that link this hotel to that shopping center. Some walkways are covered, others enclosed. Up here, we avoid the cars and the exhaust. My grandmother and I got lost once in these walkways. I remember how she pointed down to the street. There, she said, that’s where I want to go. How do we get there? We never made it—we were lost in the flyovers.

Air is like food, essential to human life. Any anthropology worth its salt, however, asks after the meanings of the essential and its manifestation in material and semiotic constellations of power. Writing of food and eating, Judith Farquhar observes that “a political economy of eating emphasizes the uneven distribution of nutritional resources, while a political phenomenology of

eating attends to the social practices that make an experience of eating.”³⁸ For an adequate account, both ends of the analytic pole are necessary, as is everything in between. Air similarly calls for an understanding of its distribution and an emic analysis of its presence and distinction in acts of living. Like foods and tastes, air is enrolled in projects of social, racial, ethnic, and cultural distinction. When diasporic Chinese find the air in Hong Kong or China unbearable, their coughs, comments, and airplane tickets distinguish person and region. Consider also how atmospheric qualities figured in colonial poetics of difference.³⁹ The Chinese “do not suffer from the oppressive heat of the lower levels during the summer months as Europeans do,” theorized the signatories to a 1904 petition to create a “Hill District” for Europeans.⁴⁰ Air marked the moments when colonists grasped for something to concretize their deep unease—a sense that all around them, permeating everything, was difference.

Air’s Index

We have seen that people in Hong Kong have a number of techniques for reading the air—dirtiness, wetness, heat, breeze, height. And we have seen how threats and health are substantiated through air’s breezing and breathing. In this section, I want to look at one of the state’s measures. Air’s substantiations, as we have seen them thus far, present a mess for a planner or politician. To facilitate communication and policy, they need something easier to evaluate—a measure that can be translated back into coughs and particles, if need be, but that is simpler and more encapsulating. Little wonder that air, an index of so much, should have an index of its own.

The Air Pollution Index (API) in Hong Kong is calculated in a manner similar to that of other countries such as the United States, Australia, and Mexico. Air pollution monitoring stations throughout Hong Kong collect data on several target pollutants: sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), and respirable suspended particulate (RSP). The

³⁸ Farquhar, *Appetites*, 46.

³⁹ On the poetics of colonial concerns over pollution, contagion, and health, see Anderson, “Excremental Colonialism.”

⁴⁰ “Humble petition of the undersigned”, 22 February 1904, unpublished document CO 129/327 Governor’s Dispatches and Replies from the Secretary of State for the Colonies, Public Records Office, London, “European reservation”, 19 May 1904, 165. quoted in Bremner and Lung, “Spaces of Exclusion,” 244.

raw data for each pollutant, usually measured in micrograms (μg) per cubic meter within a given period of time (one hour, eight hours, twenty-four hours), is turned into a subindex calibrated so that an index of 100 will correspond with a density of pollutant that is dangerous to health. That reading of 100 corresponds to different densities for different pollutants. For instance, for SO_2 , an index of 100 is calibrated to 800 micrograms per cubic meter of air ($800 \mu\text{g}/\text{m}^3$) in a one-hour period, while for NO_2 , the 100 is calibrated to $300 \mu\text{g}/\text{m}^3$. For the general Hong Kong API, the highest of the five subindices (measured in different locations) for a given hour or day is taken as the API for that hour or day.

The clarity of the number 100—so metric!—in the index is what grabbed my attention; it brought to mind the history of the kilogram.⁴¹ In 1799, in an effort to standardize measurements in France, the French National Assembly decreed that a “kilogram” would be defined as the mass of a decimeter of water at four degrees Celsius. Brass and platinum weights were made with equivalent mass, and the platinum one, called the *Kilogramme des Archives*, would eventually become the standard mass for twenty other countries in Europe through a treaty known as the *Convention du Mètre*. A more durable copy of the *Kilogramme des Archives*, made of platinum and iridium, was later fashioned as the international standard and called “K.” Twenty copies of K were then apportioned to each of the signatories of the *Convention du Mètre*. Was this 100 of the API a universal measure, like the kilogram, calibrated across national and cultural difference through an ultimate standard?

It seems so at first. Common methods and machines internationally unite those who seek to measure air’s load. These methods and machines serve as paths of translation; along them air can be turned into vials of dust, which can in turn be transformed into indices. These are “circulating references”—organizations and transformations of matter that allow material to assume more mobile forms.⁴² The reversibility of these translations ensures the indices’ stability and rigor, assuring their users and proponents of a pathway back to the dust. It takes an apparatus of techniques and methods—not simply the calibration of danger to the integer 100, but also the replicability and reversibility of the translations between air and number—to qualify Hong

⁴¹ The following draws heavily upon material presented on the website of the United Kingdom’s National Physical Laboratory, “What is the History of Weighing?”

⁴² See Latour, *Pandora’s Hope*.

Kong's API as an index among others. There is a standardization, then, to the techniques for measurement, as well to the form of the API.

When I reviewed the air pollution indices of several other countries, however, I was surprised to find that an API of 100 is calibrated to different amounts of dust in different places. For instance, for carbon monoxide the one-hour objective in Hong Kong is $30,000 \mu\text{g}/\text{m}^3$, while in California the equivalent objective is 23,000.⁴³ If the air in California had $24,000 \mu\text{g}/\text{m}^3$ of CO in it in a one-hour period, the API would read over 100 and be considered unhealthy, while in Hong Kong the API might hover only around 80 and be considered acceptable.⁴⁴ Between the final API form and the standard methods for measurements lies a space for governing what will register as risk or danger.

Most striking is the difference in objectives for RSP (PM_{10}). The twenty-four-hour target in Hong Kong is $180 \mu\text{g}/\text{m}^3$, while the federal standard in the United States is 150. The California standard is lower still, at $50 \mu\text{g}/\text{m}^3$, which is the same as levels deemed acceptable by the World Health Organization (WHO).⁴⁵ The Hong Kong threshold at which the air is considered to contain an unhealthy level of RSP is almost four times greater than the threshold in California. The standards for danger are different in different places.

Calibrating the API is a technique for managing the public perception of risk—for a public that includes vendors like Mrs. Chau, sick entrepreneurs like Fred Chan, corporations like Disney, and residents weighing arguments that a more democratic government could care better for its people.⁴⁶ The API can be read alongside the adjustment of risk thresholds that Joseph

⁴³ The objective was $30,000 \mu\text{g}/\text{m}^3$ both in 2002, when the first version of this chapter was drafted, and again in 2007 when it was revised. See Environmental Protection Department, "Air Quality Objectives."

⁴⁴ WHO's acceptable NO_2 annual mean is $40 \mu\text{g}/\text{m}^3$; Hong Kong's target is $80 \mu\text{g}/\text{m}^3$. World Health Organization, "Air Quality and Health."

⁴⁵ WHO's target for PM_{10} is $50 \mu\text{g}/\text{m}^3$; for $\text{PM}_{2.5}$ it is $25 \mu\text{g}/\text{m}^3$. World Health Organization, "Air Quality and Health."

⁴⁶ For instance, former Hong Kong Legislative Council member Christine Loh made air quality and the state of Victoria Harbour central issues of her tenure in LegCo. Both in and out of office,

Dumit analyzes in the context of pharmaceutical marketing, where marketers aim to lower the published thresholds so that more people will feel unwell and, therefore, fit for medication.⁴⁷ It also has resonances with the novel iterations of data in environmental informatics explicated by Fortun.⁴⁸ Together these examples illuminate a common situation in which the ongoing tuning, tweaking, and reiterating of numbers, graphs, and maps becomes central to affective and aesthetic work—the making visible and experienceable (or invisible and unexperienceable) of risks that are difficult to articulate.⁴⁹ A symptomless biomarker becomes felt as disease, an intuited tie between social difference and health verges on presence. Through the API’s calibration, the smell of diesel drifts in then out, a breath feels alternately thick and thin, clean and dirty, invigorating and debilitating. It is not simply that the API is deployed for persuasive ends, but that the technical practice of its generation—as much as commentaries on the breeze, held breaths, and treatises on the effect of southerly versus northerly winds—brings air into sense and sensibility. This is an aesthetic technology with serious stakes.

Air’s Poetics

First of all the enveloping hot air, ungiving,
with not a
flicker of movement, a still thermal from
which there is no
relief. You are surrounded by hot air,

she has consistently figured environmental issues as examples of how important it is for Hong Kong’s government to heed the needs and voices of its public.

⁴⁷ Dumit, “The Biomark Experiment.”

⁴⁸ Fortun, “Information Technologies, Practises and Economies in Contemporary Environmentalism.”

⁴⁹ Also relevant to this point is Adriana Petryna’s account of Ukrainians’ struggles after the Chernobyl accident to substantiate their debilitations as radiation-caused ailments in order to receive state aid while confronted with narrow and fluctuating definitions of radiation sickness. See *Life Exposed*.

buoyed up by hot air,
weighed down by hot air. You inhale hot
air, you swallow
hot air, you feel hot air behind the ears,
between the legs,
between the toes, under the feet.
Many hours later, a very slight stir,
followed by the
suggestion of a breeze. The thermal
remains.
Yet more hours later, a sudden tearing gust
of wind, and
the storm has arrived.

Louise Ho, "Storm"

What kind of substance is Hong Kong's air? One shared, particular, and comparable, one realized in bodily, sensory, practical engagements of breath and movement, as well as through the material and mathematical transformations of medical method. One fixed in the whorls between buildings, mobile as it blows across town, across borders, across disciplines—one that signals a global political economy, postcolonial anxiety, as well as concerns about health and well-being.

Air's qualities are coupled with Hong Kong's industries. Think of the smokestacks of industrial factories making goods and the cargo ships moving freight; the carbon footprints of the jets and taxis moving finance workers; the mark on the air from the coal- and gas-burning power plants that send electricity to Hong Kong's skyline and to the electronics shops, bursting with gleaming toys to be bought and powered with leisure money or credit. Think of the combustion at the end of consumption's life cycle, where discarded things are incinerated. Air pollution is both condition and effect of capital. We burn in making, we burn in consuming, we burn in discarding, and the smoke has nowhere to go but up. Once up, this smoke constitutes its own threat to Hong Kong's place in financial circuits.

Hong Kong doctors, meanwhile, work to locate their concerns about the atmospheric load

in Hong Kong within broader concerns about health, as well as within international science. Pedestrians and environmentalists worry about the winter shift in the wind that brings China's air into Hong Kong. Air's capacity to hold many forms of substance helped solidify a village–NGO collaboration mobilized to halt construction of an incinerator in Hong Kong's New Territories.

Air disrespects borders, yet at the same time is constituted through difference. Neighborhoods have different atmospheres; nations generate and apply different pollution standards; leaders worry about the state of their air compared to others. The winds themselves derive from differences in air pressure between regions, and similar relativities allow our lungs to inhale and exhale. Gradients, whose foundations are the contact and bleeding of difference, move air through the spaces we live in and through our bodies.

How do we theorize this shifting substance bound up in processes of production and consumption that also holds and touches much more? What manner of thinking about scales, distinctions, and connections does it open to us? My answers to these questions remain preliminary, but let me outline for now an argument for air's potential to reorient discussions of political universalism.

Recent efforts in post-Marxist political philosophy to retheorize universalism can be brought fruitfully to bear in the analysis of air, but they also meet a limit. As exemplars of such efforts, consider the interventions made by Butler, Laclau, and Žižek in *Contingency, Hegemony, Universality*.⁵⁰ The authors in this exchange agree that there are no obvious political or ethical universals unstained by particularity, and that the concepts of the universal and the particular are best understood in relation with each other and with their deployment in historically specific political acts. On the question of how precisely to understand the relation of the universal and the particular, however, the authors differ strongly.

For Laclau, the universal is an “impossible and necessary object” in the constitution of any political articulation, in both theoretical and political terms. “From a theoretical point of view,” he argues, “the very notion of particularity presupposes that of totality . . . And, politically speaking, the right of particular groups of agents—ethnic, national or sexual minorities, for

⁵⁰ See also Badiou, Saint Paul; Balibar, “Ambiguous Universality.”

instance—can be formulated only as universal rights.”⁵¹ The particular is thus for Laclau never outside of, or prior to, a field of relative and necessary universality within which particulars come to be known as such. The universal, in its very impossibility and necessity, grounds the politics (and analytics) of particularity.

Butler, meanwhile, argues almost the reverse point. “If the ‘particular’ is actually studied in its particularity,” she writes, “it may be that a certain competing version of universality is intrinsic to the particular movement itself.”⁵² That is, a close study of particular political movements might reveal that they actually refigure the universals that they seemed to rely upon. Universality, for Butler, rather than simply preceding the particular, is in fact generated and iterated through particular visions of the universal.

, following Hegel and Marx, invokes the concepts of oppositional determination and the concrete universal to solve the paradox of the universal and particular’s simultaneity. Of all species within a genus, he argues, there is always one that is both member of the genus and determiner of the terms defining that genus. Furthermore, the historically specific condition of global capital structures the situation of political particularisms; and class politics, he maintains, while one among multiple forms of politics, serves as the model for politics in general.

Any of these positions could ground air’s analysis to good effect. We might lean upon Butler’s concept of “competing universalities” to argue that the daily mortalities substantiated by Hong Kong’s doctors not only buttress a universalizing claim of air pollution’s link with dying, but also instantiate a particular, competing version of this universality that questions the peripheralization of Hong Kong scientists and Hong Kong health in international science. We could borrow a page from to argue that in air’s entanglement with capital we encounter the air relation determining all other air relations. Or, twisting somewhat Laclau’s characterization of the relation between universalism and contingently articulated political blocs, we could see air emerging as an empty yet always necessary universal—to be filled in with honghei, RSP, typhoons, buses, breezes, science, flies—making environmental politics, rather than class politics, a primary field for political claims.

Before long, however, air would push back. Each approach offers a theory of politics

⁵¹ Laclau, “Identity and Hegemony,” 58.

⁵² Butler, “Competing Universalities,” 166.

through a solution to the universal/particular paradox; but to do so each leans upon an initial opposition between the universal and the particular to render their coexistence paradoxical in the first place, in need of a solution. As I hope to have conveyed, however, air's encompassment of universal and particular does not present itself as a paradox. It is a banality. Rather than a solution to a paradox of scale, then, air asks for a theoretical language that does not find its movement through multiple scales and political forms remarkable in the first place.

Can we, following Kuriyama, learn to hear air whistling through the hollows of theory? Doing so means making permeable the grounding distinction drawn between the unruly manifold of matter and putatively prior conceptual forms.⁵³ For ethnography, it also means adopting a different relationship than usual with the concrete. Listening to air, thinking through this diffuse stuff in the thick of becoming, requires less literal materialism.

This reminds me of the remarks of Charles Bernstein, a poet and theorist of poetics, on the relation between poetry and philosophy: "Poetry is the trump; that is to say, in my philosophy, poetry has the power to absorb these other forms of writing, but these other forms do not have that power over poetry. . . . When I think of the relation of poetry to philosophy, I'm always thinking of the poeticizing of philosophy, or making the poetic thinking that is involved in philosophy more explicit."⁵⁴ Thinking, for Bernstein, is always a poetic act. Poetry is always thinking. This figuring of always poeticized philosophy pushes me to make explicit the poetic

⁵³ On the distinction between the a priori and a posteriori, Butler remarks: "[W]e might read the state of debate in which the a priori is consistently counterposed to the a posteriori as a symptom to be read, one that suggests something about the foreclosure of the conceptual field, its restriction to tired binary oppositions, one that is ready for a new opening" ("Dynamic Conclusions," 274). This is an argument that strict distinctions between the a priori and a posteriori signal a devolution of discussion rather than an elevated state, an argument that such oppositions indicate a foreclosed and unfruitful practice of theorizing. In the context of the exchange with Laclau and in which Butler makes this argument, this can be read as a claim that theory would benefit from an infusion of historical materiality. One should not mistake Butler's argument, however, for a call for empiricism against theory. This would repeat the same mistake of strict distinction. I take her statement, instead, as an invitation to think about theory's poetics.

⁵⁴ Bernstein, *A Poetics*, 150–51.

thinking involved in theorizing problems of universality and scale.⁵⁵ What are the “universal” and “particular” but conventionalized figures for theory’s poetics? Their ossification should be clear when those most ardently debating their definition declare the inadequacy of their terms, and then return to rest on them again and again. Some tropic invigoration might help—a poetic revival through the activation of examples, where details yield not simply particularity but the potential for mobile metaphors. Might the material poetics of the substantiations of Hong Kong’s air—with its whirlings, its blowing through scales and borders, its condensations, its physical engagements, its freight of colonial, economic, and bodily worries about health and well-being, its capacity to link and to divide, its harnessing for simultaneously local and cosmopolitan projects—provide that reviving breath theory needs?

⁵⁵ Poetry is an act of creation for Bernstein, a hopeful writing with ambition to forge something new.

Poetry is aversion of conformity in the pursuit of new forms, or can be. By form I mean ways of putting things together, or stripping them apart, I mean ways of accounting for what weighs upon any one of us, or that poetry tosses up into an imaginary air like so many swans flying out of a magician’s depthless black hat so that suddenly, like when the sky all at once turns white or purple or day-glo blue, we breathe more deeply. (1)

The pursuit of new forms and the quest for new arrangements of things so that the skies change color around us, so we all may breathe more deeply—such a poetics strikes me as in tune with the aims of our most critical and ambitious theoretico-political projects.